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NORTHEAST-MIDWEST REPORT

■

100TH CONGRESS

NORTHEAST-MIDWEST CONGRESSIONAL COALITION
U.S. HOUSE OF REPRESENTATIVES

The Northeast-Midwest Congressional Coalition is a bipartisan alliance of Members of Congress from 18 Midwestern and Northeastern states representing 103,919,000 Americans—almost 43 percent of the nation's population. Organized in September 1976, it is co-chaired by Rep. Howard Wolpe (D-MI) and Rep. Frank Horton (R-NY).

The Coalition informs its members about regional implications of national policies, and works to influence those issues of greatest importance to Northeastern and Midwestern states. Policy initiatives and issue positions are developed by Members who choose to serve on a Coalition Task Force working on Employment and Training, US-Canada Trade, the Great Lakes, the Federal Budget, or any other area of interest to the region.

The Northeast-Midwest Institute, an independent, non-profit research center created in 1977, supports the work of the Coalition by providing regional policy analysis. It also provides a broad range of policy makers outside the Coalition with research and analysis, and is financed mainly through grants from state governments, private foundations and private donors.

The work of the Coalition is also augmented by the Northeast-Midwest Leadership Council, a distinguished panel of private-sector leaders who advise members of Congress on issues affecting the entire region.

THE OIL IMPORT FEE: MORE LOSERS THAN WINNERS

A Regional and State Comparison

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The oil import fee is once again the subject of controversy, as its proponents appear determined to force consideration of the issue during the 100th Congress. Data from the Energy Information Administration indicate the oil import fee would hurt not only the Northeast, but most states in other regions of the country due to their heavy dependence on petroleum for transportation and other purposes.

The price hikes triggered by an oil import fee would have the effect of shifting billions of dollars from oil consuming states to the petroleum based economies of a handful of producing states (see Table A). For example:

- o A $5 per barrel import tariff would shift $8 billion out of the economies of the eight largest net oil consuming states, which are New York, Florida, New Jersey, Pennsylvania, Ohio, Illinois, Georgia, and California.

- o A $5 per barrel import tariff would provide the eight largest oil producing states of Alaska, Louisiana, Wyoming, Texas, Oklahoma, North Dakota, Utah, and Montana with a net gain of nearly $6 billion.

The regional patterns of oil consumption reveal that the Northeast is disproportionately dependent on petroleum products for residential, commercial, and utility applications. However, there are individual states in other parts of the country that also account for a significant share of the petroleum consumed by these sectors. States in the Midwest, South, and West account for the lion's share of the petroleum consumed by industry and the transportation sector. Most of these states lack significant oil production and would be hurt by an oil import tax just as badly as the Northeast.

The analysis below, and the accompanying charts, present data from the Energy Information Administration that measure the percentage of each state's energy needs in specific sectors that are met by petroleum products (see Table B). Table C illustrates, for reference purposes, each state's share of the total national consumption of petroleum by each sector. For example, petroleum supplies 30% of Massachusett's residential energy needs (Table B), while that state accounts for 7% of the petroleum consumed for residential purposes in the U.S. (Table C). All percentage estimates in the text below are rounded; please refer to the tables for exact data.

The Northeast: High Costs for Homes, Utilities, and Retail Businesses

The Northeast leads the nation in the proportion of its residential, commercial, and utility energy needs that are met by petroleum. The residential sector includes energy consumed for private household purposes, such as heating, cooking, and lighting, but excluding transportation. Oil supplies an average of 10% of the nation's household energy needs.

Residential: In New England, petroleum supplies an average of one-third of all energy consumed for household purposes, rising to nearly one-half for the upper New England states of Maine, New Hampshire, and Vermont. Oil products meet one-fifth of the household energy needs of the mid-Atlantic states, rising to nearly one-fourth for New Jersey. The Northeast

accounts for half of all the petroleum consumed by private households; the Northeast and Midwest together account for 70%.

Low income families and elderly citizens living on fixed incomes in the older housing stock that characterizes the Northeast would be particularly hard hit by a rise in the price of home heating oil. The impact would not be confined exclusively to that region, however. For example, 17% of household energy needs in South Dakota are supplied by petroleum; 17% in Wisconsin; 13% in North Carolina; and 13% in Virginia (see Table B).

Utilities: Petroleum burned in utility boilers for the generation of electricity supplies an average of 4% of all electricity needs.

Here the regional imbalance is most pronounced. Seventeen percent of the electricity consumed by the Northeast is supplied by oil-fired burners. New England relies on oil to meet one-third of its power requirements, with that proportion rising to 40% for Rhode Island and Connecticut. Nearly 13% of the mid-Atlantic region's electricity needs are met with oil, which supplies nearly one-fifth of New York's and Delaware's power.

The Northeast consumes nearly 70% of the oil burned in utility boilers across the nation (see Table C). While no other region is as dependent on oil-fired electricity, two states outside the region are in sharp contrast to the rest of the nation. Hawaii depends on oil for virtually all of its electricity, while oil supplies nearly 15% of Florida's power requirements.

Commercial: This sector includes non-manufacturing businesses such as restaurants and service enterprises, non-profit institutions and government. Oil supplies an average of 9% of the energy used by this sector (see Table B).

Nearly 15% of the energy used by commercial establishments in the Northeast is petroleum based, with the proportion slightly higher in New England, and slightly lower in the mid-Atlantic states (see Table B). Maine tops the list at 27%. The Northeastern states together account for 35% of all the petroleum consumed by non-manufacturing businesses and non-profit institutions, with the Northeast and Midwest together accounting for just over one-half of the total. There is, however, a significant number of states outside the region whose commercial establishments meet more than 10% of their energy needs with oil. These states include Minnesota at 12%; Wisconsin at 11%; Arkansas at 13%; and Mississippi at 10%.

Petroleum meets a disproportionately high share of the energy needs of the Northeast for commercial, residential and utility applications. However, it is crucial to remember that these three sectors account for only 12% of the petroleum consumed for all purposes in the U.S. (See Table E). The balance is reserved for industrial and transportation uses, and it is here that the oil dependency of states in other regions of the country is most obvious.

Industry and Transportation: National Dependency

Industry: The industrial sector includes petroleum consumed as energy and raw material feedstock in manufacturing, construction, mining, agriculture, fishing, and forestry establishments. Nearly one-third of the energy required by these establishments is supplied by petroleum.

New England leads the nation with 34% of its industrial energy requirements supplied by oil, with the proportion reaching 57% in Rhode Island. However, here the South and West are also heavily oil dependent, with oil accounting for 32% and 30%, respectively, of industrial energy consumption in those regions (see Table B). The South alone uses half of the oil consumed nationwide for industrial purposes, with Texas accounting for one-half of that region's consumption (see Table C). The West consumes 20%, compared to only 12% for the entire Northeast.

Predictably, industrial oil use is particularly high in states that also produce oil. For example, the petrochemical industry, which accounts for about one-fifth of total industrial petroleum consumption, naturally tends to locate near the oil and gas fields that supply fuel and petrochemical feedstocks. However, a significant number of states with little or no indigenous oil production are disproportionately dependent on petroleum to fuel their industries. For example, petroleum satisfies 31% of the energy requirements for Florida's industries; 29% in Mississippi; 28% in Iowa; 35% in Nebraska; 46% in South Dakota; 28% in Kentucky; and 27% in Minnesota (see Table B). A rise in the cost of oil would shift income from the petroleum dependent industries in these states, which have no significant oil production, to the handful of states that are big oil producers.

Transportation: The transportation sector refers to public and private vehicles that move people and commodities. This sector accounts for 63% of national petroleum consumption (see Table E). Petroleum constitutes almost all transportation energy costs, with few exceptions (e.g., electric public transportation).

The Northeast and Midwest, with 43% of the population, account for only 40% of the national gasoline consumption, while the South consumes 35% of the total and the West, 25%. California alone uses 11% of the gasoline consumed in the U.S., while New York, Florida, and Illinois each average 5% of the national total. An oil import fee would be especially hard on commuters and the trucking industries in these and other states with disproportionately high gasoline usage.

Oil Consumers v. Oil Producers

An oil import fee would increase energy costs for all states, but would be particularly damaging to states that are net petroleum users. Table D, comparing consumption with production for 1985, identifies the forty-two states that consume more oil than they produce. These states, clearly the "losers" under any oil import fee, are not confined to any particular region. New York has the nation's largest petroleum deficit, over 284 million barrels of oil annually. Florida, a southern state dependent on

petroleum for over one-half of its energy consumption, registers the second highest crude debt, in excess of 225 million barrels. Ohio, Missouri, Massachusetts, Pennsylvania, and Virginia are also significant consumers. A rise in oil prices would hurt industries in Georgia, homes in Connecticut, businesses in Minnesota, and trucking firms in Washington.

Significant oil production is concentrated in very few states. Alaska, Louisiana, California, and Texas alone produce over three quarters of the nation's crude. Other states produce oil, but only in nominal amounts. For example, while Texas produced 889 million barrels in 1985, output for the same year reached only 26 thousand barrels in Virginia, 1 million barrels in New York, 175 thousand in Arizona, and 786 thousand in Tennessee. While an oil import fee would hurt petroleum consumers in the eight states that produce more oil than they consume, the petroleum industries in these sectors would reap the benefits of higher prices for their product.

The effect of the price hikes triggered by an oil import fee would be to shift billions of dollars from oil consuming states to the petroleum based economies of a handful of producing states (see Table A). A $5 per barrel import tariff would shift a net $8 billion out of the economies of the eight net largest oil consuming states, which are New York, Florida, New Jersey, Pennsylvania, Ohio, Illinois, Georgia and California. The same rates would provide the eight largest producing states of Alaska, Louisiana, Wyoming, Texas, Oklahoma, North Dakota, Utah, and Montana with a net gain of nearly $6 billion.

The damage that a tariff would inflict on oil dependent states is too high a price to pay to benefit such a narrow geographic and industrial base.

TABLE A

WINNERS AND LOSERS

Effect of $5 per Barrel Import Fee
On Eight Largest Oil Producing and Consuming States

Oil Consumers		Oil Producers	
State	Net Loss[1] (Thousands of Dollars)	State	Net Gain[1] (Thousands of Dollars)
New York	1,421,635	Alaska	3,136,195
Florida	1,125,415	Louisiana	1,253,635
New Jersey	1,089,670	Wyoming	527,905
Pennsylvania	1,055,920	Texas	391,485
Ohio	1,006,335	Oklahoma	375,870
Illinois	932,985	North Dakota	147,165
Georgia	693,820	Utah	36,115
California	684,565	Montana	5,420
Total	8,010,315		5,847,810

[1]Assumes $5 per barrel increase in oil prices, multiplied by difference between petroleum consumption and production for each state.

SOURCE: Northeast-Midwest Congressional Coalition Staff calculations based on U.S. Department of Energy, Energy Information Administration, State Energy Data Report: Consumption Estimates 1960-1985, DOE/EIA-0214(85), (Washington, D.C., 1987); U.S. Department of Energy, Energy Information Administration, Petroleum Supply Annual 1985 DOE/EIA-0340(85)/1, (Washington, D.C., 1986), p. 31.

TABLE B
Petroleum Consumption Estimates by Sector, 1985
(percent of total state energy use)

Region and State	Utility	Residential	Industrial	Commercial	Total[1]
New England					
Connecticut	39.8	30.5	32.1	18.3	63.2
Maine	20.8	44.0	35.3	27.1	63.5
Massachusetts	36.9	30.3	31.7	17.9	61.4
New Hampshire	20.4	39.9	32.1	17.7	61.3
Rhode Island	40.0	35.8	57.3	14.0	55.8
Vermont	0.4	45.6	26.1	21.4	55.5
Regional Average	32.6	33.5	34.3	18.5	61.4
Mid-Atlantic					
Delaware	20.9	31.6	35.0	11.2	58.6
Maryland	10.9	13.1	17.2	9.3	41.4
New Jersey	9.3	23.9	46.1	13.4	57.0
New York	20.2	22.0	22.3	17.1	47.6
Pennsylvania	6.2	18.0	16.4	8.6	36.6
Regional Average	12.7	20.2	23.5	13.7	45.5
Midwest					
Illinois	1.7	4.6	27.2	4.9	32.1
Indiana	0.3	8.0	15.8	9.8	32.7
Iowa	0.2	12.0	28.4	7.4	37.1
Michigan	0.9	9.5	17.2	6.0	32.7
Minnesota	0.1	12.5	26.9	11.9	40.5
Ohio	0.3	6.9	19.9	4.4	31.5
Wisconsin	0.4	16.7	15.4	10.7	35.2
Regional Average	0.7	8.7	20.9	6.7	33.5
South					
Alabama	0.1	5.0	14.9	12.8	32.5
Arkansas	*	6.7	27.7	12.9	39.7
District of Columbia	100.0	8.2	2.7	8.5	23.9
Florida	14.6	4.3	31.3	8.4	50.9
Georgia	0.2	4.9	23.8	6.1	42.6
Kentucky	0.3	8.4	27.5	7.8	39.0
Louisiana	0.2	1.8	36.8	15.8	32.5
Mississippi	0.5	6.1	29.1	10.3	41.4
North Carolina	0.3	13.2	18.9	8.7	39.6
Oklahoma	0.1	4.8	24.3	4.2	34.8
South Carolina	0.3	8.7	14.5	5.7	36.7
Tennessee	0.2	4.3	17.2	8.6	34.3
Texas	0.4	3.4	41.4	9.7	45.9
Virginia	2.3	12.5	23.5	6.6	42.0
West Virginia	0.3	3.6	26.4	7.2	33.6
Regional Average	1.8	5.9	32.2	8.9	42.0

TABLE B (cont'd)
Petroleum Consumption Estimates by Sector, 1985
(percent of total state energy use)

Region and State	Utility	Residential	Industrial	Commercial	Total[1]
West					
Alaska	11.3	19.4	25.1	13.5	49.2
Arizona	0.4	2.2	16.5	2.7	38.7
California	2.0	1.9	36.5	3.4	48.7
Colorado	0.2	3.0	29.2	2.8	37.6
Hawaii	98.7	1.9	26.3	6.2	99.1
Idaho	*	6.2	17.3	5.5	30.5
Kansas	0.4	5.1	36.7	4.3	39.4
Missouri	0.2	6.6	28.5	5.7	39.2
Montana	0.1	7.0	45.5	17.1	46.3
Nebraska	0.2	6.5	34.8	6.3	39.2
Nevada	0.3	7.0	18.7	7.1	44.5
New Mexico	0.2	16.5	39.2	11.6	49.5
North Dakota	0.1	13.9	26.8	11.6	39.4
Oregon	*	8.2	22.1	7.2	39.4
South Dakota	0.2	17.2	45.5	10.6	51.4
Utah	0.3	2.6	20.4	8.8	35.0
Washington	*	5.2	21.3	9.7	34.9
Wyoming	0.2	5.8	27.0	14.7	36.5
Regional Average	1.7	4.8	30.4	5.8	43.6
Northeast	16.8	24.4	25.3	14.8	48.9
Midwest	0.7	8.7	20.9	6.7	33.5
Northeast and Midwest	8.4	15.7	22.5	10.8	40.5
South	1.9	5.9	32.2	8.9	42.0
West	1.7	4.8	30.4	5.8	43.6
South and West	1.8	5.5	31.6	7.6	42.6
U.S. Weighted Average	4.1	10.0	28.5	8.9	41.8

*Represents less than 0.1%.

[1]Total represents petroleum as a percentage of all sectors (including transportation) of state energy consumption.

SOURCE: Northeast-Midwest Congressional Coalition staff calculations based on U.S. Department of Energy, Energy Information Administration, State Energy Data Report: Consumption Estimates 1960-1985, DOE/EIA-0214(85), (Washington, D.C., 1987), pp. 1-6.

TABLE C
Petroleum Consumption Estimates by Sector, 1985
(percent of national consumption)

Region and State	Utility	Residential	Industrial	Commercial	Gasoline	Total[1]
New England						
Connecticut	9.8	4.0	0.6	2.8	1.3	1.4
Maine	2.0	2.1	0.4	1.1	0.6	0.6
Massachusetts	14.1	7.2	0.9	4.7	2.2	2.5
New Hampshire	1.4	1.6	0.2	0.5	0.4	0.4
Rhode Island	0.4	1.4	0.4	0.5	0.4	0.4
Vermont	*	1.1	0.1	0.4	0.2	0.2
Regional Average	27.7	17.4	2.6	10.0	5.1	5.5
Mid-Atlantic						
Delaware	1.8	0.8	0.4	0.3	0.3	0.4
Maryland	3.4	2.3	0.9	1.4	1.9	1.5
New Jersey	3.2	7.2	3.0	4.9	3.2	3.9
New York	25.4	13.1	2.0	15.1	5.4	5.2
Pennsylvania	7.9	9.2	2.7	3.8	4.1	3.9
Regional Average	41.7	32.6	9.0	25.5	14.9	14.9
Midwest						
Illinois	1.7	2.5	4.3	3.2	4.5	3.7
Indiana	0.2	2.1	2.3	2.3	2.3	2.4
Iowa	0.1	1.8	1.2	1.1	1.2	1.1
Michigan	0.6	4.2	2.0	2.3	3.8	2.8
Minnesota	*	2.5	1.4	2.1	1.8	1.6
Ohio	0.3	3.5	3.9	2.2	4.4	3.7
Wisconsin	0.1	3.7	0.8	2.3	1.9	1.5
Regional Average	3.0	20.3	15.9	15.5	19.9	16.8
South						
Alabama	*	0.8	1.2	2.1	1.8	1.5
Arkansas	*	0.7	1.1	1.3	1.1	1.0
District of Columbia	0.2	0.2	*	0.6	0.2	0.1
Florida	13.6	1.8	1.7	4.3	5.1	4.2
Georgia	0.2	1.1	1.8	1.5	2.9	2.4
Kentucky	0.1	1.4	1.6	1.3	1.6	1.5
Louisianna	0.1	0.3	9.8	3.8	2.0	4.4
Mississippi	0.1	0.6	1.1	1.0	1.1	1.1
North Carolina	0.2	3.3	1.3	2.2	2.9	2.2
Oklahoma	*	0.8	1.7	0.8	1.7	1.5
South Carolina	0.1	1.1	0.8	0.8	1.5	1.1
Tennessee	0.1	1.0	1.3	2.2	2.3	1.8
Texas	0.9	2.3	26.2	8.7	8.3	13.3
Virginia	0.9	3.0	1.3	2.0	2.5	2.2
West Virginia	0.2	0.3	1.3	0.5	0.7	0.8
Regional Average	16.7	18.7	52.2	33.1	35.7	39.1

TABLE C (cont'd)
Petroleum Consumption Estimates by Sector, 1985
(percent of national consumption)

Region and State	Utility	Residential	Industrial	Commercial	Gasoline	Total[1]
West						
Alaska	0.6	0.5	0.6	0.7	0.2	0.7
Arizona	0.2	0.3	0.4	0.4	1.5	1.0
California	2.8	1.5	8.0	3.4	10.8	10.0
Colorado	0.1	0.4	0.7	0.6	1.4	1.1
Hawaii	6.3	*	0.2	0.1	0.3	0.7
Idaho	*	0:3	0.3	0.4	0.4	0.3
Kansas	0:1	0.6	1.9	0.6	1.1	1.3
Missouri	0.1	1.7	1.4	1.4	2.4	1.9
Montana	*	0.3	0.9	0.9	0.4	0.5
Nebraska	*	0.5	0.6	0.6	0.7	0.6
Nevada	0:1	0.3	0.2	0.3	0.5	0.4
New Mexico	*	0.7	0.8	0.8	0.7	0.7
North Dakota	*	0.5	0.5	0.4	0.3	0.4
Oregon	*	1.1	0.6	1.0	1.2	1.0
South Dakota	*	0.6	0.3	0.3	0.4	0.3
Utah	*	0.2	0.6	0.5	0.7	0.6
Washington	*	1.4	1.5	2.9	1.8	1.9
Wyoming	0:1	0.1	0.7	0.5	0.3	0.4
Regional Average	10.4	11.0	20.2	15.8	25.1	23.8
Northeast	69.4	50.0	11.6	35.5	19.9	20.4
Midwest	3.0	20.3	15.9	15.5	19.8	16.8
Northeast and Midwest	72.4	70.3	27.5	51.0	39.7	37.2
South	16.7	18.7	52.2	33.1	35.4	39.1
West	10.4	11.0	20.2	15.8	25.1	23.8
South and West	27.1	29.7	72.4	48.9	60.5	62.9
U.S. Total	100.0	100.0	100.0	100.0	100.0	100.0

* Represents less than 0.1%

[1] Actual Total may not equal 100% due to rounding.

SOURCE: Production Statistics: Northeast-Midwest Congressional Coalition staff calculations based on U.S. Department of Energy, Energy Information Administration, State Energy Data Report: Consumption Estimates 1960-1985, DOE/EIA-0214(85), (Washington, D.C., 1987), pp. 1-6.

TABLE D
State Production & Consumption of Petroleum, 1985
(in thousands of barrels)

Region and State	Production	Consumption	Net
New England			
Connecticut	*	76,790	-76,790
Maine	*	33,817	-33,817
Massachusetts	*	134,470	-134,470
New Hampshire	*	22,328	-22,328
Rhode Island	*	19,197	-19,197
Vermont	*	11,791	-11,791
Regional Total	*	298,393	-298,393
Mid-Atlantic			
Delaware	*	21,414	-21,414
Maryland	*	84,341	-84,341
New Jersey	*	217,934	-217,934
New York	1,071	285,398	-284,327
Pennsylvania	4,851	216,035	-211,184
Regional Total	5,922	825,122	-819,200
Midwest			
Illinois	30,265	216,862	-186,597
Indiana	5,168	136,262	-131,094
Iowa	*	66,814	-66,814
Michigan	27,300	162,815	-135,515
Minnesota	*	92,030	-92,030
Ohio	14,988	216,255	-201,267
Wisconsin	*	85,873	-85,873
Regional Total	77,721	976,911	-899,190
South			
Alabama	21,581	83,135	-61,554
Arkansas	19,044	56,042	-36,998
District of Columbia	*	7,101	-7,101
Florida	11,458	236,541	-225,083
Georgia	*	138,764	-138,764
Kentucky	7,790	86,502	-78,712
Louisiana	508,239	257,512	+250,727
Mississippi	30,641	62,047	-31,406
North Carolina	*	123,719	-123,719
Oklahoma	162,739	87,565	+75,174
South Carolina	*	64,397	-64,397
Tennessee	786	103,260	-102,474
Texas	888,831	809,904	+78,297
Virginia	26	122,381	-122,355
West Virginia	3,555	42,265	-38,710
Regional Total	1,654,690	2,281,135	-626,445

TABLE D (cont'd)
State Production & Consumption of Petroleum, 1985
(in thousands of barrels)

Region and State	Production	Consumption	Net
West			
Alaska	666,233	38,850	+627,383
Arizona	175	58,761	-58,586
California	423,877	560,790	-136,913
Colorado	30,246	61,392	-31,146
Hawaii	*	39,335	-39,335
Idaho	*	19,520	-19,520
Kansas	75,407	79,122	-3,715
Missouri	243	108,576	-108,333
Montana	29,768	28,684	+1,084
Nebraska	6,943	36,797	-29,854
Nevada	3,039	25,106	-22,067
New Mexico	78,530	40,000	-38,530
North Dakota	50,857	21,364	+29,493
Oregon	*	57,066	-57,066
South Dakota	1,596	18,532	-16,936
Utah	40,792	33,569	+7,223
Washington	*	104,863	-104,863
Wyoming	128,514	23,233	+105,181
Regional Total	1,536,220	1,355,560	+180,660
Northeast	5,922	1,123,515	-1,117,593
Midwest	77,721	976,911	-899,190
Northeast and Midwest	83,643	2,100,426	-2,016,783
South	1,654,690	2,281,135	-626,445
West	1,536,220	1,355,560	+180,660
South and West	3,190,910	3,636,695	-445,785
U.S. Total	3,274,553	5,737,121	-2,462,568

*Represents little or no oil production.

Note: Bold print is used to highlight states which produce more petroleum than they consume.

SOURCES: Consumption Statistics: Northeast-Midwest Congressional Coalition Staff calculations based on U.S. Department of Energy, Energy Information Administration, State Energy Data Report: Consumption Estimates 1960-1985, DOE/EIA-0214(85), (Washington, D.C., 1987); Production Statistics: Northeast-Midwest Congressional Coalition staff calculations based on U.S. Department of Energy, Energy Information Administration, Petroleum Supply Annual 1985 DOE/EIA-0340(85)/1, (Washington, D.C., 1986), p. 31.

TABLE E

Petroleum Use by Sector, 1985

	Percentage of National Petroleum Consumption
Residential	5.0
Commercial	3.4
Industrial	24.9
Transportation	63.2
Utilities	3.5
Total	100.0

SOURCE: Northeast-Midwest Congressional Coalition staff calculations based on U.S. Department of Energy, Energy Information Administration, State Energy Data Report: Consumption Estimates 1960-1980, DOE/EIA-0214(85), (Washington, D.C., 1987), P. 1.

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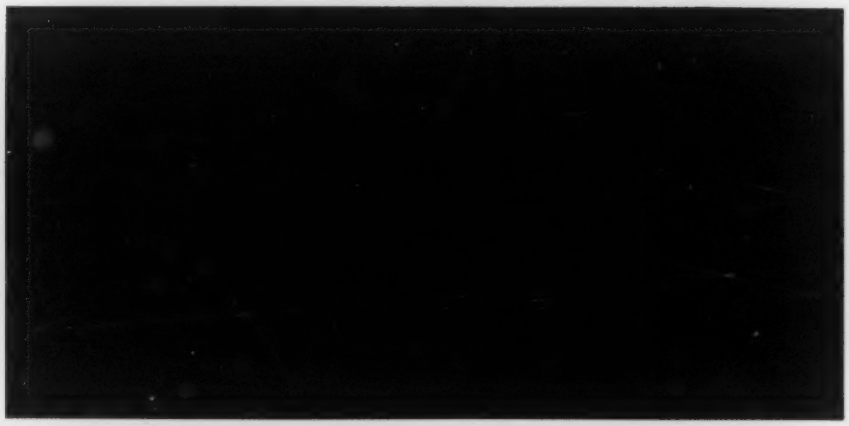

The Northeast-Midwest Congressional Coalition is a bipartisan alliance of Members of Congress from 18 Midwestern and Northeastern states, representing 103,919,000 Americans—almost 43 percent of the nation's population. Organized in September 1976, it is co-chaired by Rep. Howard Wolpe (D-MI) and Rep. Frank Horton (R-NY).

The Coalition informs its members about regional implications of national policies, and works to influence those issues of greatest importance to Northeastern and Midwestern states. Policy initiatives and issue positions are developed by Members who choose to serve on a Coalition Task Force working on Employment and Training, US-Canada Trade, the Great Lakes, the Federal Budget, or any other area of interest to the region.

The Northeast-Midwest Institute, an independent, non-profit research center created in 1977, supports the work of the Coalition by providing regional policy analysis. It also provides a broad range of policy makers outside the Coalition with research and analysis, and is financed mainly through grants from state governments, private foundations and private donors.

The work of the Coalition is also augmented by the Northeast-Midwest Leadership Council, a distinguished panel of private-sector leaders who advise members of Congress on issues affecting the entire region.

Farm Distress Monitoring and Action Program:

A Legislative Initiative

Prepared By the Northeast-Midwest
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Robert Kelley and Sondra Feldstein

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INTRODUCTION

"If the bank's calculations are correct, if the weather cooperates, if the crop is abundant and if prices do not collapse further, they will be able to repay their new loan. They also may be able to pay off a bit more of their land debt and then begin the same uncertain process again."

The future for Allan and Linda Toedebusch, family farmers, as summarized by Ward Sinclair
The Washington Post
March 23, 1986

"Last year, when [farm] programs cost nearly $26 billion, nearly 400 commercial family farms went out of business every day, the American Bankers Association reported. This year bankruptcies appear to be continuing at the same pace, according to reports by universities and lending groups."

Keith Schneider
The Washington Post
Sunday, September 13, 1987

There were 218,909 fewer farms in 1986 than in 1980. Although the number of farms in America has been falling since the national all-time high was reached in 1935, the rate of decrease has been accelerating in recent years (see Table 1). Farms will continue to decrease in number as long as the return on traditional farm investment makes financial success uncertain. The concern of today's midsize farmer is to reduce debt and maintain cash flow. Plans to expand and retool have been replaced by plans to liquidate and relocate to areas with greater opportunity for employment.

Community level forecasting and marketing analysis and aggressive planning strategies for farm operators could be an effective way to deal with farm operator's problems. Farmers who do leave agriculture also could be assisted in ways that would make the transition less painful and traumatic for the families and individuals concerned.

This report discusses problems faced by two related farm groups: farm operators who are in financial trouble and farm operators who will leave farming altogether. The former are marginal farmers whose family farms are financially at risk or

Table 1. Number of Farms 1910 - 1986

Year	Number	Change From Previous Year	Percent Change by Year	Year	Number	Change from Previous Year	Percent Change by Year
1910	6,406,200	———	—	1950a/	5,647,800	(74,450)	-1.30
1911	6,424,600	18,400	.29	1951	5,427,600	(220,200)	-3.90
1912	6,429,900	5,300	.08	1952	5,197,500	(230,100)	-4.24
1913	6,437,200	7,300	.11	1953	4,983,600	(213,900)	-4.12
1914	6,446,800	9,600	.15	1954	4,798,200	(185,400)	-3.72
1915	6,457,700	10,900	.17	1955	4,653,800	(144,400)	-3.01
1916	6,463,300	5,600	.09	1956	4,514,100	(139,700)	-3.00
1917	6,477,600	14,300	.22	1957	4,371,700	(142,400)	-3.15
1918	6,487,500	9,900	.15	1958	4,232,900	(138,800)	-3.17
1919	6,506,000	18,500	.29	1959a/	4,104,520	(128,380)	-3.03
1920	6,517,500	11,500	.18	1960b/	3,962,520	(142,000)	-3.46
1921	6,510,700	(6,800)	-.10	1961	3,825,410	(137,110)	-3.46
1922	6,499,600	(11,100)	-.17	1962	3,692,410	(133,000)	-3.48
1923	6,491,800	(7,800)	-.12	1963	3,572,200	(120,210)	-3.26
1924	6,480,100	(11,700)	-.18	1964	3,456,690	(115,510)	-3.23
1925a/	6,470,600	(9,500)	-.15	1965	3,356,170	(100,520)	-2.91
1926	6,461,600	(9,000)	-.14	1966	3,257,040	(99,130)	-2.95
1927	6,458,100	(3,500)	-.05	1967	3,161,730	(95,310)	-2.93
1928	6,469,700	11,600	.18	1968	3,070,860	(90,870)	-2.87
1929	6,511,600	41,900	.65	1969	3,000,180	(70,680)	-2.30
1930	6,545,600	34,000	.52	1970	2,949,140	(51,040)	-1.70
1931	6,608,500	62,900	.96	1971	2,902,310	(46,830)	-1.59
1932	6,686,750	78,250	1.18	1972	2,859,880	(42,430)	-1.46
1933	6,740,750	54,000	.81	1973	2,823,260	(36,620)	-1.28
1934	6,775,900	35,150	.52	1974	2,795,460	(27,800)	-.98
1935	6,813,700	37,800	.56	1975a/	2,521,420	(274,040)	-9.80
1936	6,739,150	(74,550)	-1.09	1976	2,497,270	(24,150)	-.96
1937	6,635,850	(103,300)	-1.53	1977	2,455,830	(41,440)	-1.66
1938	6,526,700	(109,150)	-1.64	1978	2,436,250	(19,580)	-.80
1939	6,440,900	(85,800)	-1.31	1979	2,432,300	(3,950)	-.16
1940	6,349,800	(91,100)	-1.41	1980	2,432,510	210	.01
1941	6,293,250	(56,550)	-.89	1981	2,433,920	1,410	.06
1942	6,201,800	(91,450)	-1.45	1982	2,400,550	(33,370)	-1.37
1943	6,089,000	(112,800)	-1.82	1983	2,370,200	(30,350)	-1.26
1944	6,003,400	(85,600)	-1.41	1984	2,328,400	(41,800)	-1.76
1945a/	5,699,750	(303,650)	-5.06	1985c/	2,274,430	(53,970)	-2.32
1946	5,925,650	225,900	3.96	1986	2,214,420	(60,010)	-2.64
1947	5,870,950	(54,700)	-.92				
1948	5,803,000	(67,950)	-1.16				
1949	5,722,250	(80,750)	-1.39				

Source: U.S. Department of Agriculture, Statistical Reporting Service

Note: Numbers in parentheses represent negative numbers.

a/ Reflects change in Census farm definition.
b/ Begins to include data from Alaska and Hawaii.
c/ Estimate.

whose long-term viability is in question. The latter, farmers who leave farming altogether, are dislocated workers, just as dislocated as unemployed steel and unemployed textile workers.

Both groups have unique needs which are not being adequately met through existing programs. This report addresses their problems by examining the resources currently available through the Department of Agriculture's Extension Service and the Job Training Partnership Act administered through the Department of Labor. The need for expanding the services provided by Extension agents, and the parallel need for a permanent and reliable source of funding for programs that assist severely distressed people, can be met through an inexpensive change in existing programs. The program outlined in the recommendations would increase the likelihood of farm survival and would also assist those farmers who are making the transition to non-farm occupations.

This program would provide relief to farmers who have for years operated in debt. A clear course of action would be established for monitoring farm operation costs and for making decisions about its future. Resources would be allocated to provide Extension agents with the means to assist at-risk farmers to do all that is possible for successful management of the farm.

While monitoring the progress of farms at risk, Extension agents would take steps to prepare for transition if necessary. If a particular community should reach a certain level of distress, state Cooperative Extension Services would apply to the Department of Labor for funding and participate in the development of an intensified program, funded through the Job Training Partnership Act, to assist dislocated workers.

Former farmers are highly employable. One study conducted in North Dakota, for example, found that 75.6 per cent of farmers who had left the farm found jobs within eight months.[1] But farmers are usually unfamiliar with job hunting or resume preparation, and can greatly benefit from the advice of more experienced people.

Preventing current farmers from becoming unemployed is a greater challenge. Steps can be taken to help avoid costly planning, investment, and resource allocation mistakes. By expanding the assistance Extension agents already provide, farm operations can become aggressive, competitive and viable businesses. The application of sophisticated planning techniques for farm operations is already being done, but there is a need for further training of agents and more data analysis at a state level.

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[1]F. Larry Leistritz and others, Families Displaced From Farming in North Dakota: Characteristics and Adjustment Experiences, Agricultural Economic Report No. 220. (Fargo, North Dakota: North Dakota State University, 1987)

PREVENTION: AIDING THE MARGINAL FARMER

> "We have had a few health problems, none of which were very extensive, three or four really bad drought years that really set us back, perhaps some bad business decisions and maybe some management weaknesses."
>
> Margie Brauer
> Former Farm Operator
> (TIME magazine,
> September 8, 1986)

Farmers today operate in a world greatly influenced by international politics and by domestic and foreign policy issues that compound the uncertainties of a business already considered high-risk because of unpredictable weather and market conditions. Although farmers themselves are aware of these new factors influencing their lives, they are less certain about how to deal with them. The scope and complexity of the problems created by these factors are often too much for a farmer to deal with in addition to the many other decisions faced daily.

Computer-aided financial analysis, aggressive marketing, sophisticated management techniques, and long-term planning are areas in which many farmers, preoccupied with the day-to-day operation of their businesses, could benefit from specialized services aimed at specific issues and problems affecting the farming industry in their area, as well as from services which would take into account the particular circumstances of a given farm operation.

Such services could help to prevent the predicament of too many family farmers today--that of realizing, too late, that there were things they might have done to save their farms, had they known how to go about it or when to initiate change. Preventive assistance to family farmers would have both social and economic benefits.

Variations in geography, farm size and climate among states and regions have made it difficult to form consistent, equitable federal farm assistance policy. As indicated in Table 2, average farm size varies by region. The highest concentration of small farms, defined as farms with annual sales of less than $40,000, is found in the South. Midsize farms, with annual sales between $40,000 and $500,000, are concentrated in the Midwest. Farms with annual sales greater than $500,000 are found primarily in the West.

Table 2. Regional Distribution of Farms by Size [2]

Farm Class	less than $40,000	$40,000 - $100,000	$100,00- $500,000	over $500,000
Percent of U.S.Total				
Northeast	6.4	7.4	7.5	6.4
Midwest	22.9	40.2	38.6	20.3
South	45.4	21.9	24.8	28.7
West	25.3	30.5	29.1	44.5

Midsize farms are generally family farm operations. They are commercial farms, as opposed to the under $40,000 category. Many farms with annual gross income below $40,000 represent part-time farmers. These farmers typically are not dependent on farm income for their livelihood. Included in this class are farms operating in impoverished areas. Although small farm operators may benefit from suggestions made in this paper, their needs are more comprehensive and are not specifically addressed.

Farms with gross annual sales between $40,000 and $500,000 are generally commercial family farms, as opposed to the over $500,000 category, which for the most part represents farms that require more production resources than the family can provide.

It is not the small part-time farm operators, less dependent on farm income for livelihood, nor the largest farm operators, relatively small in number, who are experiencing the greatest financial pressure. It is the midsize farms that have the greatest difficulty maintaining financial stability and are most likely to need special services. Family-sized commercial farms represent almost 35 percent of all farms and control 52 percent of all assets, but owe 64 percent of all farm debt.[3]

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[2] Staff calculations from Larry G. Taub and Letricia M. Womack, U.S. - State Agricultural Data, Agricultural Information Bulletin Number 512. (Washington, D.C.: Economic Research Service).

[3] "Financial Characteristics of U. S. Farms, Jan. 1, 1987," USDA, Economic Research Service, Agriculture Information Bulletin #526, July 1987, p. 6.

The most efficient way to provide family farmers with information for improved marketing and planning techniques is through the Cooperative Extension Service. Established in 1914 to provide technical, scientific, and educational advice to farmers, the Extension Service maintains a nationwide network of county agents who are intimately acquainted with local economic and social conditions. Farmers, farm workers, and local ag-related business people are familiar with Extension, and many states are already using their Extension agents to provide stress counseling and advice in assessing the long-term viability of individual farms.

EXTENSION SERVICE

In October 1986 there were 10,300 county Extension agents. Although each Extension agent participates in the process of assisting farm operators and workers with the difficulties and problems they face, only a small fraction of Extension's budget is allocated specifically for rural development assistance.

The following is a breakdown of how the resources at Extension Service were allocated in 1986:[4]

Agriculture	45.6%
Rural Development	5.8%
Home Economics	22.7%
4-H/Youth Development	25.8%

In the past seven years, the cost of farm price support programs has increased from $2.7 billion in FY 1980 to $25.8 billion in FY 1986, a tenfold increase! Yet, the number of farm failures continues to increase. However, as Table 3 shows, over the same period the Extension Service budget has not maintained inflationary levels from year to year.

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[4]Personal communication with Hollis Hall, USDA-Extension, September 1987

Table 3. Annual Budget - Extension Service 1980 - 1986
(in thousands of dollars)

	1981	1982	1983	1984	1985	1986	1987	1988*
Budget Authority	303,769	315,702	328,654	334,340	343,727	328,009	332,172	262,587
Percent Change from Previous year		3.93%	1.04%	1.02%	1.03%	- 4.57%	1.27%	-20.94%

* Administration's proposed budget.
Source: Budget of the United States Government 1982, 1983, 1984, 1985, 1986, 1987, 1988 (Washington, D.C. Government Printing Office, 1981, 1982, 1983, 1984, 1985, 1986, and 1987)

The current Administration budget request decreases funding for Extension Service. This will reduce the ability of Extension to meet the needs of farmers. Resources spent on aiding farms in financial trouble will be limited. It is important to look further at the effect a budget cut in Extension will have on farmers. The marginal farms who would normally benefit most from the advice and assistance offered through Extension will be most effected by this cut.

County agents know who is in trouble, who needs to take action to save a farm, and who has to face the reality that a farm is past saving. Too often, the county agent lacks the resources to give a troubled family all the assistance it needs. With further cuts in Extension's budget, agents will be challenged to offer the services farmers have depended on for over seventy years. To avoid a surge in the number of farms in financial trouble, the resources available through Extension Service needs to be increased, not decreased.

Specialists at the state's university Extension office know what to do, but lack the resources and personnel necessary to get their expertise delivered to the county level. Modest additions in staff and equipment at the state level, such as computers and motor vehicles, could facilitate informed decisions about future needs to be met by Extension, and could permit more follow-up work with individuals at the local level. The county Extension agent's role in recent years has evolved from "provider of information" to "problem solver." Increased funding is crucial, as well as a clear commitment to providing farmers with what they really need.

TRANSITION: RURAL DISLOCATED WORKERS

> **"Farmers have not traditionally been consumers of employment and training services, social services and the like. The Program need[s] to gain credibility and acceptance of the farmers while, at the same time, farmers need time to accept the inevitability and necessity of looking for new employment and a new lifestyle."**
>
> Edward Retka
> Minnesota JTPA
> Title III Coordinator

In regions where farming is the primary occupation, state programs have been developed to meet the needs of people who can no longer survive on farm income alone. In other regions, particularly in the Northeast and the industrialized areas of the Midwest, the problems faced by former farm operators and rural workers have been overshadowed by widely reported plant closings in the manufacturing sector.

There are two major reasons for the lack of progress on rural worker problems: (1) the small number of rural workers compared to the number of urban workers, (in 1985, total U.S. population was 238,740,000; total number of farmers was 5,355,000 or 2.2 percent) and (2) the greater expense and unique problems of meeting the needs of unemployed people in rural areas. In addition, regional differences in farming have fostered a state rather than federal approach to managing short-term and long-term farm unemployment problems.

The Job Training Partnership Act

The need for the federal government to respond legislatively to structural changes in the labor market provided the impetus for the passage of the Job Training Partnership Act (JTPA) in 1982. The JTPA brings private industry and local government together to create job training programs for economically disadvantaged persons and dislocated workers unemployed due to lack of skills or to economic, industrial, or regional decline.

JTPA set up a major national employment and training system that replaced the Comprehensive Training and Employment Act (CETA). Three major sections of JTPA provide funds for programs to assist disadvantaged persons (Title IIa), disadvantaged youth in the summer (Title IIb), and dislocated workers (Title III).

Dislocated workers are defined in JTPA as those who have been laid off or terminated and are unlikely to return to their previous occupation; are long-term unemployed and have limited opportunities for employment; were self-employed, including farmers; or who are unemployed as a result of general economic conditions in the community in which they reside.

For 1987, only $50 million was appropriated for JTPA Title III. Seventy-five percent of these funds are distributed to the states by formula and the remaining 25% are distributed at the discretion of the Secretary of Labor for specific programs requested through the state governors' offices. These funds are available for assistance with specific unemployment occurrences, such as a large plant closing or mass lay-off, or other chronic labor conditions. Programs funded through Title III discretionary funding use creative approaches to meet the unique needs of a particular group of unemployed workers. The states that receive Title III discretionary funds have flexibility in determining the most effective program to address local worker dislocation.

As indicated in Table 4, after having risen to over $5.7 million in 1985, discretionary program funding for farmers and ranchers decreased dramatically in 1986. Even as farm numbers continued to fall, JTPA Title III discretionary funds for job assistance programs in rural areas decreased by almost $4.3 million. The Department of Labor attributes part of the reduction to a decline in applications for funds for dislocated farmer and rancher programs.

Table 4.

JTPA Title III National Reserve Projects - Farming and Ranching[5]

1983 (9 months)	$3,500,000
1984	4,041,635
1985	5,746,425
1986	1,396,404

Note: Yearly funding from July 1 - June 30

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[5] Personal communication with Karen Spar, Congressional Research Service, August 1987.

STATE PROGRAMS

Many states, aware of the need for more active outreach to rural workers, have initiated programs of their own. The successes and failures of these programs are a good source of information on effective ways to reach financially distressed rural workers. All the state programs impose eligibility qualifications, often loss of the farm. Some state programs allow farmers with a specified debt/asset ratio to participate, the assumption being that a high ratio is proof that the farm is in trouble and preventive action is needed. Services are often provided through subcontractors such as private employers, colleges, and existing state agencies.

At least fourteen states have used or are using JTPA funds for programs which include farmers and farm workers among the intended beneficiary groups. The programs, primarily funded through the 25 percent of Title III funds reserved for the Secretary of Labor's discretionary use, focus on classroom and on-the-job training, job search assistance, and other employment services. Numbers are hard to come by, but the states that have kept statistics report high success rates with retraining and job placement.

Minnesota began its dislocated farmer assistance program in 1985, using a combination of discretionary grants from the Department of Labor JTPA funds and state-allocated Title III funds. As of August 1987, $1,791,861 had been allocated. Nearly 1,200 dislocated farmers have enrolled in programs and nearly 700 of those have found employment in new careers.[6]

Nebraska began its "Agriculture in Transition" program in October of 1985 using JTPA funds administered through Ag Action Centers at community colleges. At the time of a December 1986 report, 418 of 733 participants had completed the JTPA course of training and counseling. Of those, 322, or 77 percent, were placed in jobs with an average wage of $5.57 per hour. Nebraska estimates that each person placed generates annually $911 in state taxes, $1500 in federal taxes, and $8,864 in retail sales.[7]

In South Dakota, the Dislocated Farmer Program begun in 1986 had, as of September of that year, served 375 people using JTPA funds. Of those 375 individuals, 82.3 percent entered employment at an average wage of $5.11 per hour. Follow-up revealed that the average wage after 13 weeks of employment was $5.83 per hour. Total cost of the program was $165,850.[8]

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[6]Personal communication with Ed Retka, State Title III Coordinator, Minnesota Department of Jobs and Training, August 12, 1987.

[7]Mollie Anderson, "The Crisis in Agriculture: A Nebraska Solution," paper presented at Agricultural Outlook Conference, December 3, 1986.

[8]South Dakota Department of Labor, memo on Rural Renaissance Program, September 4, 1986.

INADEQUACIES OF JTPA IN SERVING THE RURAL POPULATION

The unique demographic and economic characteristics of rural areas require different programs from those that have been used to address urban unemployment. Although a 1986 amendment to JTPA expanded the Title III definition of dislocated worker to include farmers, the needs of the farmers are not met by merely bringing them into existing programs that have been developed for dislocated workers in other sectors. Some reasons why rural workers are not being adequately served are:

- Cost Effectiveness- Providing job training and other services to people in rural areas is expensive. Offices and programs must be within reasonable traveling distance to be truly accessible. In rural areas where there is low population, for example, agencies that run a JTPA program will have higher fixed expenses and will serve fewer people than a comparable agency in an urban area.

- Sociological Differences- Farm operators are self-employed and have been dependent only on hard work and good weather to determine their fate. The attitude of "help yourself and help others" tends to deter any consideration of looking to the government for help. Gaining credibility with farmers is difficult. They have not traditionally been a client of social and employment services.

- Population Priorities- The rural unemployed represent a scattered population comparatively low in number and poorly documented. Five hundred unemployed manufacturing union workers all residing in one city stand a greater chance of obtaining attention and programs than do five hundred dispersed unemployed rural workers.

- Data Limitations- Identifying the extent of rural worker unemployment is difficult. Legislation amending the Job Training Partnership Act in 1986 directed the Secretary of Labor to report to Congress on the dislocation of farmers and ranchers from farm and ranch failure. This report will be interesting because of the importance of the information and because of the difficulty in obtaining accurate information on this problem.

The description of the rural work force does not fit the categories used by the Department of Labor describing other sectors of our nation's work force. Some of the problems encountered when trying to describe the rural work force are the following:

- Many farmers who have been operating at a loss for five or more years consider themselves employed and are counted as such by the Bureau of Labor Statistics.

- The seasonal character of the farm work load means that unemployment rates fluctuate widely, which can mask the true extent of severe distress.

- Statistics on the extent of unemployment and underemployment in rural areas have to be estimated by the Bureau of Labor Statistics. While the models and methodology used to make these estimates are very sophisticated, they may not yield figures as accurate as those available for urban labor.

SOLVING SPECIAL PROBLEMS

Administrators of state programs have identified several especially difficult problems encountered in getting job training and other transition services to farmers. Most, if not all, of the problems identified by those who have experience in the field could be best met by expanding the role of Extension and coordinating the efforts of Extension with Labor Department programs and funds.

- One problem is insufficient agricultural expertise on the part of employment and training program staff. Staff members have found it necessary to learn about farm bankruptcy laws and government farm programs. In addition to making extra demands on staff time, the degree of technical knowledge acquired by employment and training staffers is seldom extensive enough to make these support people truly helpful to dislocated farmers.

- A second problem is what one state program administrator termed "federal parochialism." The various federal agencies with money and/or programs that might be of use to farmers tend to be jealous of their "turf", and unwilling to cooperate with other agencies for the purpose of developing a coordinated response to the problem of farmer dislocation.

INTEGRATED PROGRAMS

Most of the states that have initiated farmer-assistance programs have adopted an integrated approach that combines transition assistance with farm-assistance programs aimed at keeping the farmer on the farm. Services offered range from financial counseling (a component of every state program) to more innovative programs designed to help farmers take positive steps toward changing their long-term financial situation. A sampling of programs which are or have been in place at some time during the past two years reveals a wide range of approaches with some common denominators.

- New York provides information on alternative farming, research on markets for new crops, and workshops on starting new farm-based businesses, as well as JTPA funds for vocational education and technical training.[9]

- Virginia began a model farm project in December 1983 with partial funding from JTPA. The Extension Service is also involved with a five-year pilot project to teach small farmers about opportunities for increasing their income through improved management techniques and alternative crops.

- In Minnesota, community task forces were established to provide planning, advice, and oversight for farmer-oriented JTPA Title III projects. These task forces are different from the private industry councils used by other JTPA funded programs. The unique needs of the community where the JTPA Title III funds are being spent are incorporated into the design of a particular project. Members of the task force include Extension agents, local business people, educators, and farmers. An effort is made to get the community involved in the programs, and the task forces have made it easier to adjust programs to meet special community needs. Minnesota also has an active debt-mediation program and other services to help farmers who are in financial difficulty.[10]

- South Dakota's Legal Assistance Program provides low-cost legal services for qualified farmers who cannot afford attorneys' fees. Attorneys help negotiate with

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[9] Employment and Training Reporter, January 28, 1987, p. 518.

[10] "Farmers in Transition," Chairman's Report, New York State Senate, December 1985; personal communication with Ed Retka, Minnesota Department of Jobs and Training.

creditors to restructure debt. They use chapter 12 of the federal bankruptcy law to retain assets if possible. The South Dakota Department of Agriculture also gives farmers minimum wage stipends for up to two years of classroom training for those who have lost their land or to farmers who need off-farm income to support their financially-weak farm operations. The Extension Service is the local contact point for both programs. In addition, the Dislocated Farmer Program in South Dakota uses JTPA funds to provide job search and training assistance to farmers who have lost their farms.[11]

One state in particular has developed a far-reaching and comprehensive approach that can be instructive, both for the range of services offered and the way the services are made available to farmers.

The Illinois Farm Network System

The state of Illinois, through its Department of Commerce and Community Affairs, implemented an extensive farmer-assistance program during the first half of 1986.[12] The Farm Network System, as it is called, acts as an umbrella organization that coordinates the work of a number of state and local agencies. Some of the programs that come under the auspices of the Farm Network were in existence before 1986; others are the result of new legislation or private initiatives.

The Farm Network is an ambitious project, and probably the most comprehensive instituted by any state. Under the program, the farmer can get help with everything from restructuring debt to growing new crops to finding a new occupation. Illinois has adopted some ideas from other states and tried out some new ones of its own.

The program has two goals. The first is to help the farmer stay on the farm; the second is to give assistance to those farmers and agri-business workers who find it necessary to change occupations. Consistent efforts are made to encourage different agencies to work together regardless of which agency would typically provide services for a particular person or area. As of December 1986, participation in the program had not been as high as earlier expected; "resistance" problems had not been entirely solved. However, the existence of a smoothly-functioning support system for dislocated farmers and agri-business workers should encourage those individuals to make use

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[11]Directory of Services, South Dakota Rural Renaissance Program.
[12]Illinois Department of Commerce and Community Affairs, folder of information on Illinois Farm Network System.

of the services in the future. For more information concerning this program, see Appendix 1.

COORDINATING EXTENSION AND JTPA

Despite the lack of firm numbers, it is clear from the programs already in existence that farmers are willing to ask for help when the services are available, especially if the help offered includes an attempt to keep the family on their farm. As has been noted, credibility and an unwillingness to use special services have been obstacles to the effectiveness of programs being run by the various states. The obvious answer to these difficulties is to use the Extension Service. An aggressive preventive action program could forestall many of the problems threatening the existence of family farmers, and their communities as well; trained rural development specialists backed with a sure source of funds could ease much of the pain for those who do have to leave the farm.

RECOMMENDATIONS

"People aren't going to quit eating and wearing natural fibers...there's got to be a future in farming."

Cecil and Glenn Luelf
Bankrupt family farmers
US News and World Report
January 20, 1986

The Department of Agriculture through its Extension Service should develop a systematic method for evaluating the fitness of commercial farms throughout the country. Factors that should be included in the analysis are assets, debt, expenses, production levels, market prices, land values, availability of operating loans, interest rates and other measurable influences on farm financial conditions as determined by the Department of Agriculture. Commercial farms should be examined annually and a determination of the extent of financial stress should be made. For farms operating at a dangerous financial level, further assistance from Extension agents should be made available.

Assistance to farmers in financial stress should be increased to help alter the course of the farm and encourage stability. Definite short-term and long-term goals should be established so that decisions may be made about the future of the farm and the steps a farm family will need to take to meet their goals. If the established goals are not met, preparation for easing the transition should begin. This preparation should include review of the opportunities for further education, business and other employment possibilities along with financial preparation to exit farming with the least amount of debt.

Academic opportunities may exist at regional public and private colleges. A part-time course of study in preparation for a new career may include the opportunity to continue farm management. Education loans or scholarships may be available and assistance can be offered to identify these opportunities. Business opportunities should also be explored. Start-up loans and entrepreneurial support is often available through state or county economic development offices.

The Farm Distress Monitoring and Action Program

An effective use of opportunities that exist at the Department of Agriculture and the Department of Labor with a few changes, can be described by dividing them into four steps:

Step 1 - Monitoring

A comprehensive program should be developed and administered by the Department of Agriculture through the Extension Service and utilized nationally to monitor the factors that influence farm livelihood on a community level.

Step 2 - Assistance

Extension Agents should be provided the resources to offer assistance farm operators who must make decisions about the future of a farm at risk. Criteria for making decision about the long-term viability of a particular farm should be established at this level.

Step 3 - Referral

Through the state Extension Services, agents should provide information to operators of a farm at risk about alternatives being used successfully in other areas of the country. This information would include opportunities available in education, entrepreneurship (including new markets and/or crops), off-farm work, etc. Farm families should receive assistance in assessing marketable skills.

Step 4 - Transition Program Development

For rural areas with widespread farming problems, Extension agents should be involved in the development of a community-level, custom-tailored job transition program. This program should be funded with specified monies such as those allocated through the Job Training Partnership Act Title III Secretary's Discretionary fund.

Needed Changes in Current Programs

1) Expanding the rural development component of Extension Service.

Extension should be involved at the earliest stages of problem identification. Agents are established in the community and have experience with financial forecasting as well as with local conditions. A structure needs to be set up within Extension for an expanded rural development role. The following considerations are important for devising such a structure:

- Plans to avoid farm failure must be linked to steps in preparation for alternatives to farming.
- To avoid crises, preventive action such as the identification and tracking of factors influencing the stability of the farm should be provided for operators of at-risk farms, with an emphasis on commercial family farms.
- Preventive action and problem identification should be conducted on a regular basis.
- Both individual farms and rural communities should be assessed on a regular basis to identify developing problems.
- State offices should analyze the information provided by county agents to identify potential problem areas so that action may be taken before a community is in serious trouble.
- County agents should be given more training in financial and stress counseling.
- Agents specializing in rural development should be increased in number and given a higher-profile role in the state Extension Services, so that local agents will be able to call on them for assistance in their own communities.

2) Funds should be set aside, either from Job Training Partnership Title III monies or a similar source, to assist severely distressed communities, and state Extension Services should be encouraged to use this resource.

Farms will continue to decrease in numbers. Farm operators leaving the farm either voluntarily, or because of financial trouble, need assistance for making the transition. Once problems begin to accumulate in an identified area, a source of

funding for program to assist farm operators, their families and other affected rural workers is needed. Factors influencing farm success such as credit legislation, weather, market prices, and foreign trade change sporadically and have unpredictable effects in different regions of the country. Money should be made available for the development of programs when they are needed as determined by the intervention of Extension Service agents.

- Farmers should not have to hit rock bottom before becoming eligible for assistance programs.

- The JTPA should be a source of funding and program opportunity once a chronic area has been identified.

When a plant closing is announced, JTPA funding is available to assist workers in making the transition to a new job. For farms that are failing, eligibility criteria should be determined, and a pre farm-closing program to "soften the blow" of the transition should be implemented.

Data Collection

A final point which deserves attention is that of statistics. The 1986 amendments to JTPA included a provision for a feasibility study for collecting data on displaced farmers and farm workers. A number of states, aware of the need for such information, have conducted surveys in an effort to determine how many individuals are being affected by the changing farm economy, and several states included a provision for such data collection in their various farm-assistance programs. One-time surveys and state-by-state efforts, however, lack the consistency and reliability over time that a comprehensive federal data collection effort would provide.

Appendix 1 - The Illinois Farm Network

Each of the following is a brief explanation of a component of Illinois' Farm Network Program:

- Rural Revival is a multi-faceted program aimed at promoting comprehensive and diversified rural development. Components include business grants, energy and housing loans, and loans to farmers to encourage crop diversification. A Center for Value Added Agriculture has been created at the University of Illinois to find new uses for traditional grain crops, and the Agricultural Research and Development Consortium, jointly funded by the state and federal government, is developing new markets for agricultural products.

- Rural Route, an 800 hotline operated by the Extension Service, offers financial counseling and referrals for legal assistance, stress, and job counseling. In its first two years of operation, Rural Route helped over 2,700 farm families. The Extension Service also operates four regional Financial Stress Centers, in addition to 100 county centers. Data is being collected at present; it is estimated that over 2000 families have been assisted thus far.

- Illinois Legal Assistance Foundation operates a toll-free hotline through which qualified farm families can get referrals for low-cost legal assistance. Attorneys who participate in the program are paid a flat hourly fee, with funds provided by the state. The Foundation was organized by the Illinois State Bar Association, and 694 lawyers in 90 counties have volunteered to participate. During the period of February to May 1986, 697 legal referrals resulted from 1,309 calls.

- Farm Resource Center operates a hotline to provide professional advice and referrals for farm families experiencing stress because of financial problems. Professional counselors are also assigned to extension regions to identify and assist families in need of stress-management counseling. In addition, the Center publishes pamphlets on dealing with farm stress. Two hundred and fifty families were counseled during a two-month period in 1986.

- Farmers in Transition, patterned after Nebraska's successful program of the same name, uses JTPA funds and state revenue to assist farmers and agri-business workers with job training and placement. The program

operates through the existing Cooperative Extension Service network of county agents and offices.

- JTPA has been modified by Illinois to make the program more responsive to the needs of rural dislocated workers. The state uses the JTPA network and provides state funds for Service Delivery Areas which implement programs aimed at farmers. Modified requirements give eligibility to 1) farmers with a debt-asset ratio of 55 percent or higher, and 2) farmers who ave agreed to find off-farm employment as part of a debt reorganization plan. Three of the service delivery areas offer services to farmers and farm workers:

- The Farm Program operates in five central Illinois counties and provides job search assistance, classroom training, and OJT to eligible farmers in the area. The Farm Program contacts employers, handles paperwork, and reimburses employers for 50 percent of the wages paid during an employee's training.

- Farm Grant is a dislocated workers program operating in east central Illinois and directed to qualified farmers and agri-business workers. Farm Grant provides job search assistance, on-the-job-training, vocational education training and job placement assistance.

- Farm Family Project of the Northwest Illinois JTPA is identical to Farm Grant, serving a different geographic area.

Six Year Change in Farm Numbers by State and Region

Region and State	Number of Farms			
	1980	1986	Change	% Change
NEW ENGLAND				
Connecticut	4,000	4,000	0	0
Maine	8,000	8,000	0	0
Massachusetts	6,000	6,000	0	0
New Hampshire	3,000	3,000	0	0
Rhode Island	1,000	1,000	0	0
Vermont	8,000	7,000	-1,000	- 13.0
Total	30,000	29,000	-1,000	- 3.3
MID-ATLANTIC				
Delaware	4,000	3,000	-1,000	- 25.0
Maryland	18,000	17,000	-1,000	- 5.5
New Jersey	9,000	8,000	-1,000	- 11.1
New York	47,000	42,000	-5,000	- 10.6
Pennsylvania	62,000	57,000	-5,000	- 8.1
Total	140,000	127,000	-13,000	- 9.3
MIDWEST				
Illinois	107,000	87,000	-20,000	- 18.7
Indiana	87,000	78,000	-9,000	- 10.3
Iowa	119,000	109,000	-10,000	- 8.4
Michigan	65,000	61,000	-4,000	- 6.2
Minnesota	104,000	93,000	-11,000	- 10.6
Ohio	95,000	88,000	- 8,000	- 7.3
Wisconsin	93,000	82,000	-11,000	- 11.8
Total	670,000	598,000	-72,000	- 10.7
SOUTH				
Alabama	59,000	52,000	-7,000	- 11.9
Arkansas	59,000	50,000	-9,000	- 15.3
Florida	39,000	39,000	0	0
Georgia	59,000	49,000	-10,000	- 16.7
Kentucky	102,000	99,000	-3,000	- 2.9
Louisiana	37,000	36,000	-1,000	- 2.7
Mississippi	55,000	46,000	-9,000	- 16.4
North Carolina	93,000	73,000	-20,000	- 21.5
Oklahoma	72,000	71,000	-1,000	- 1.3
South Carolina	34,000	28,000	-6,000	- 17.6
Tennessee	96,000	96,000	0	0
Texas	189,000	160,000	-29,000	- 15.3
Virginia	58,000	50,000	-8,000	- 13.8
West Virginia	22,000	21,000	-1,000	- 4.5
Total	974,000	870,000	-104,000	- 10.7

Region and State	Number of Farms			
	1980	1986	Change	% Change
WEST				
Alaska	500	1,000	500	100.0
Arizona	8,000	9,000	1,000	12.5
California	81,000	79,000	-2,000	- 2.4
Colorado	27,000	27,000	0	0
Hawaii	4,000	4,000	0	0
Idaho	24,000	24,000	0	0
Kansas	75,000	70,000	-5,000	- 6.7
Missouri	120,000	115,000	-5,000	- 4.1
Montana	24,000	24,000	0	0
Nebraska	65,000	57,000	-8,000	- 12.3
Nevada	3,000	2,000	-1,000	- 33.3
New Mexico	14,000	14,000	0	0
North Dakota	40,000	33,000	-7,000	- 17.5
Oregon	35,000	37,000	2,000	5.7
South Dakota	39,000	36,000	692	- 7.7
Utah	14,000	14,000	0	0
Washington	38,000	38,000	0	0
Wyoming	9,000	9,000	0	0
Total	620,500	593,000	-27,500	- 4.4
Northeast	170,000	156,000	-14,000	- 8.2
Midwest	670,000	598,000	-72,000	- 10.7
Northeast and Midwest	840,000	754,000	-86,000	- 10.2
South	974,000	870,000	-104,000	- 10.7
West	620,500	593,000	-27,500	- 4.4
South and West	1,594,500	1,463,000	-131,500	- 8.2
U.S. Total	2,434,500	2,217,000	-217,500	- 8.9

Source: U.S. Bureau of the Census, "Statistical Abstract of the U.S. 1987," 107th ed. Washington, D.C.

Region and State	Total # of Farms	Percent less than $40,000	Number of Farms	Percent less than $100,000	Number of Farms	Percent less than $500,000	Number of Farms	Percent more than $500,000	Number of Farms
NEW ENGLAND									
Connecticut	3,749.0	74.4%	2,789.3	10.7%	401.1	12.5%	468.6	2.4%	90.0
Maine	6,998.0	73.0%	5,108.5	14.0%	979.7	11.8%	825.8	1.2%	84.0
Massachusetts	5,384.0	75.0%	4,038.0	13.1%	705.3	10.6%	570.7	1.3%	70.0
New Hampshire	2,745.0	80.3%	2,204.2	10.0%	277.2	8.8%	241.6	.8%	22.0
Rhode Island	728.0	80.6%	586.8	9.9%	72.1	7.6%	55.3	1.9%	13.8
Vermont	6,307.0	56.0%	3,531.9	22.9%	1,444.1	20.7%	1,305.5	.4%	25.2
Total	25,911.0	70.5%	18,258.7	15.0%	3,879.8	13.4%	3,467.5	1.2%	305.0
MID-ATLANTIC									
Delaware	1,338.0	56.2%	1,876.0	13.2%	440.6	27.1%	119.4	3.5%	116.8
Maryland	16,165.0	70.7%	11,428.7	12.5%	1,972.1	15.6%	2,521.7	1.5%	242.5
New Jersey	8,259.0	76.5%	6,318.1	10.3%	850.7	11.7%	966.3	1.5%	121.9
New York	42,175.0	62.8%	26,485.8	19.7%	8,308.5	16.5%	6,958.9	.9%	379.6
Pennsylvania	55,498.0	70.1%	39,015.1	16.7%	9,268.2	11.8%	6,548.8	1.1%	610.5
Total	125,435.0	67.9%	85,123.7	16.6%	20,840.1	13.6%	17,115.1	1.2%	1,473.2
MIDWEST									
Illinois	98,467.0	53.4%	52,581.4	22.8%	22,450.5	22.7%	22,352.0	1.1%	1,083.1
Indiana	77,151.0	68.8%	53,079.9	16.0%	12,344.2	14.3%	11,032.6	1.0%	771.5
Iowa	115,369.0	45.6%	52,608.1	28.6%	32,995.5	24.4%	28,150.0	1.4%	1,615.2
Michigan	58,642.0	76.4%	44,802.5	12.3%	7,213.0	10.5%	6,157.4	.8%	469.1
Minnesota	94,372.0	56.6%	53,414.6	25.4%	23,970.5	17.2%	16,232.0	.8%	755.0
Ohio	86,897.0	75.0%	65,172.8	13.7%	11,904.9	9.6%	8,342.1	.5%	434.5
Wisconsin	82,173.0	55.2%	45,359.5	27.9%	22,926.3	16.3%	13,394.2	.6%	493.0
Total	613,071.0	59.9%	367,018.8	21.8%	133,804.8	17.2%	105,660.3	.9%	5,621.4
SOUTH									
Alabama	48,418.0	83.3%	40,332.2	7.3%	3,534.5	8.6%	4,163.9	.7%	338.9
Arkansas	50,504.0	73.9%	37,322.5	9.9%	4,999.9	14.7%	7,424.1	1.4%	707.1
Florida	36,314.0	78.3%	28,433.9	8.9%	3,231.9	9.4%	3,413.5	3.5%	1,271.0
Georgia	49,598.0	74.1%	36,752.1	10.4%	5,158.2	14.1%	6,993.3	1.4%	694.4
Kentucky	101,623.0	87.4%	88,818.5	8.6%	8,739.6	3.8%	3,861.7	.2%	203.2
Louisiana	31,588.0	77.9%	24,607.1	9.7%	3,064.0	11.3%	3,569.4	1.1%	347.5
Mississippi	42,393.0	82.0%	34,762.3	6.7%	2,840.1	9.9%	4,196.9	1.5%	635.9
North Carolina	72,751.0	76.1%	55,363.5	11.5%	8,366.4	11.3%	8,220.9	1.0%	727.5
Oklahoma	72,481.0	83.3%	60,231.7	10.0%	7,248.1	6.5%	4,711.3	.5%	362.4
South Carolina	24,916.0	82.7%	20,605.5	8.0%	1,991.1	8.2%	2,043.1	1.2%	299.0
Tennessee	90,540.0	90.9%	82,300.9	5.2%	4,708.1	3.6%	3,259.4	.5%	271.6
Texas	184,945.0	84.6%	156,463.5	8.0%	14,795.6	6.5%	12,021.4	.9%	1,664.5
Virginia	51,829.0	85.5%	44,311.8	7.0%	3,628.0	6.8%	3,524.4	.7%	362.8
West Virginia	18,722.0	95.0%	17,785.9	2.6%	486.8	2.1%	393.2	.3%	56.2
Total	876,622.0	83.1%	728,093.2	8.3%	72,794.7	7.7%	67,796.5	.9%	7,942.0
WEST									
Alaska	570.0	92.5%	527.3	3.0%	17.1	4.0%	22.8	.5%	2.9
Arizona	7,254.0	70.2%	5,143.1	8.4%	609.5	13.4%	972.0	7.3%	529.5
California	82,383.0	70.5%	58,080.0	10.5%	8,650.2	13.0%	10,709.8	6.1%	5,025.4
Colorado	27,063.0	68.0%	18,402.8	15.8%	4,276.0	13.6%	3,680.6	2.5%	676.6
Hawaii	4,588.0	84.8%	3,890.6	7.5%	344.1	5.8%	266.1	1.9%	87.2
Idaho	24,610.0	63.6%	15,652.0	17.5%	4,306.8	16.1%	3,962.2	2.7%	664.5
Kansas	71,200.0	66.5%	48,511.4	19.5%	14,289.6	13.2%	9,599.7	1.2%	879.4
Missouri	112,419.0	79.8%	89,710.4	12.1%	13,602.7	7.8%	8,768.7	.4%	449.7
Montana	23,471.0	60.0%	14,082.6	22.0%	5,163.6	17.0%	3,990.1	1.1%	258.2
Nebraska	60,209.0	48.1%	28,960.5	27.5%	16,557.5	22.2%	13,366.4	2.2%	1,324.6
Nevada	2,697.0	71.7%	1,933.7	12.9%	347.9	12.8%	345.2	2.6%	70.1
New Mexico	13,421.0	79.8%	10,710.0	9.7%	1,301.8	8.9%	1,194.5	1.7%	228.2
North Dakota	36,406.0	51.6%	18,785.5	31.1%	11,322.3	16.7%	6,079.8	.6%	218.4
Oregon	34,039.0	81.0%	27,571.6	7.8%	2,655.0	9.8%	3,335.8	1.4%	476.5
South Dakota	37,052.0	54.0%	20,008.1	29.4%	10,893.3	15.6%	5,780.1	.9%	333.5
Utah	13,932.0	80.9%	11,271.0	9.8%	1,365.3	8.3%	1,156.4	.9%	125.4
Washington	36,047.0	71.7%	25,845.7	11.2%	4,037.3	14.9%	5,371.0	2.3%	829.1
Wyoming	8,820.0	66.7%	5,882.9	18.3%	1,614.1	13.5%	1,190.7	1.6%	141.1
Total	598,261.0	67.7%	404,969.1	16.9%	101,353.9	13.3%	79,791.8	2.1%	12,320.1
Northeast	151,346.0	68.3%	103,382.5	16.3%	24,719.9	13.6%	20,582.6	1.2%	1,778.2
Midwest	613,071.0	59.9%	367,018.8	21.8%	133,804.8	17.2%	105,660.3	.9%	5,621.4
Northeast and Midwest	764,417.0	61.5%	470,401.3	20.7%	158,524.6	16.5%	126,243.0	1.0%	7,399.7
									.0
South	876,622.0	83.1%	728,093.2	8.3%	72,794.7	7.7%	67,796.5	.9%	7,942.0
West	598,261.0	67.7%	404,969.1	16.9%	101,353.9	13.3%	79,791.8	2.1%	12,320.1
South and West	1,474,883.0	76.8%	1,133,062.3	11.8%	174,148.6	10.0%	147,588.4	1.4%	20,262.1
					.0				
U.S. Total	2,239,300.0	71.6%	1,603,463.6	14.9%	332,673.2	12.2%	273,831.3	1.2%	27,661.7

Source: Womak, Letricia and Larry G. Traub, "U.S. - State Agricultural Data,"
USDA Economic Research Service, Agriculture Information Bulletin #512, April 1987

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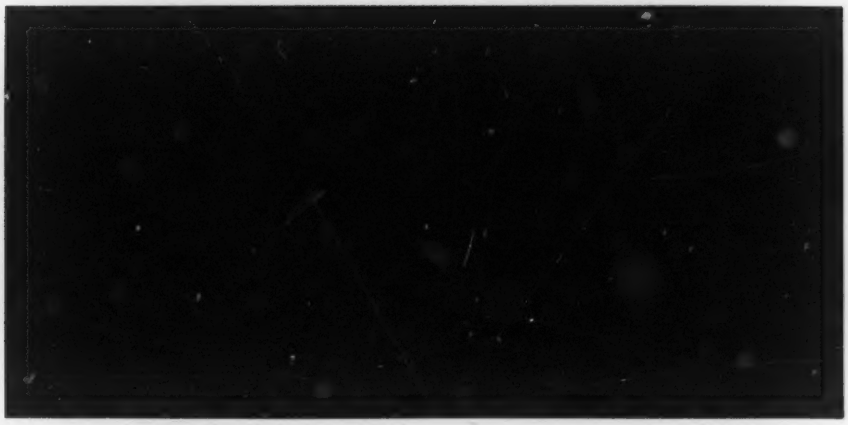
R8490-14.3F 11/87

NORTHEAST-MIDWEST REPORT

■

100TH CONGRESS

NORTHEAST-MIDWEST CONGRESSIONAL COALITION
U.S. HOUSE OF REPRESENTATIVES



The Northeast-Midwest Congressional Coalition is a bipartisan alliance of Members of Congress from 18 Midwestern and Northeastern states, representing 103,919,000 Americans—almost 43 percent of the nation's population. Organized in September 1976, it is co-chaired by Rep. Howard Wolpe (D-MI) and Rep. Frank Horton (R-NY).

The Coalition informs its members about regional implications of national policies, and works to influence those issues of greatest importance to Northeastern and Midwestern states. Policy initiatives and issue positions are developed by Members who choose to serve on a Coalition Task Force working on Employment and Training, US-Canada Trade, the Great Lakes, the Federal Budget, or any other area of interest to the region.

The Northeast-Midwest Institute, an independent, non-profit research center created in 1977, supports the work of the Coalition by providing regional policy analysis. It also provides a broad range of policy makers outside the Coalition with research and analysis, and is financed mainly through grants from state governments, private foundations and private donors.

The work of the Coalition is also augmented by the Northeast-Midwest Leadership Council, a distinguished panel of private-sector leaders who advise members of Congress on issues affecting the entire region.

A ROLE FOR THE FEDERAL GOVERNMENT IN HAZARDOUS WASTE REDUCTION

Cate Leger
Northeast-Midwest Institute
(202) 544-5200

September 1987

NORTHEAST-MIDWEST CONGRESSIONAL COALITION
NORTHEAST-MIDWEST SENATE COALITION
NORTHEAST-MIDWEST INSTITUTE

In late 1976, members of Congress from the region founded the Northeast-Midwest Congressional Coalition in recognition of the common problems facing their states and the fact that federal policies often create major obstacles to regional economic growth. The bipartisan group now includes nearly 200 members of the House of Representatives. The Northeast-Midwest Senate Coalition, which was formed in 1978, has 36 members. Together the Coalitions seek to inform their members about the regional implications of national policies and proposals, and to influence those issues of greatest importance to Northeastern and Midwestern states.

The Coalitions propose legislative solutions to the economic problems of the New England, Mid-Atlantic, and Midwest states, and work to assure that federal policies are equitable in their treatment of different areas of the country. Task forces help develop policy initiatives and positions on subjects ranging from the federal budget and economic development to defense, natural resources, energy, and transportation.

The Northeast-Midwest Institute was formed in 1977 at the request of members of the House and Senate who perceived the need for information and analysis of public policies to identify and further the interests of the region. The Institute seeks to encourage policies that will ease the pressures on and support the continued revitalization of the region's economy. It continually searches for new ideas and legislative options that can help older Northern states overcome their handicaps--such as high energy costs and a deteriorating infrastructure--and prudently develop their many assets, including a highly skilled work force, top quality educational institutions, and abundant natural resources.

Although members of Congress remain key clients of the Institute, the organization has developed close working relationships with governors, mayors, and other state and local officials as well. The Institute's work is used widely and relied upon by corporate and labor leaders, academics, public interest groups, associations, and journalists throughout the nation.

The states in the region served by the three organizations are Connecticut, Delaware, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

This paper on hazardous waste reduction was prepared with the generous support of the Ford Foundation.

Summary

Managing our hazardous wastes safely has become one of the biggest environmental challenges the U.S. faces today. At least 570 million tons of toxic wastes are generated annually; safe ways of disposing of them are increasingly difficult to find. However, several recent studies have indicated that U.S. industry has the potential to reduce substantially their production of hazardous waste using existing technologies.

In this brief, the Northeast-Midwest Institute reviews the existing regulatory and business climate for adoption of waste-reduction programs and how proposed federal legislation could give this process added momentum. The brief is divided into five sections:

- A background section that offers an overview of the toxic waste burden and a definition of reduction.

- A discussion of industry progress on waste reduction with examples of state programs to help. It examines the problem of rising Superfund liability costs many smaller companies face. The section also considers the barriers to more progress--lack of knowledge of the techniques and sufficient capital to undertake them.

- The regulatory section describes provisions in the main federal laws that govern disposal and reduction--the Resource Conservation and Recovery Act, the Clean Air Act, the Clean Water Act, and the Superfund laws. It describes how toxic contaminants move easily from one media to another--air to land to water. It suggests that source reduction could help companies meet pollution-control requirements of the various laws and mitigate the problems of intermedia transfer.

- A section on current federal and state waste-reduction policies describes government activities in solving the problem, and their effectiveness or lack thereof.

- The final section reviews the proposed waste-reduction legislation introduced in the 100th Congress as H.R. 2800 by Representatives Howard Wolpe, Claudine Schneider, Dennis Eckart, and Sherwood Boehlert, and as S. 1429 by Senator Frank Lautenberg. Provisions of these bills provide grants to states to help them begin or expand programs, establish a clearinghouse for information, set up an Office of Waste Reduction within EPA, which reports progress to Congress every two years, and require collection of more data on waste-reduction practices.

Introduction

This country is poised to take a new direction in environmental policy. The federal government could take a leading role by encouraging management policies that both reduce the health and environmental risks posed by hazardous waste and save taxpayers and businesses money. The U.S. spends about $77 billion annually on the management of hazardous waste, roughly 2 percent of the GNP.[1] However, pioneering companies have proven that simple, cost-effective technologies are available that reduce waste generation at the source and could cut waste management costs significantly. Analysis of industries using these technologies shows that waste reduction, in nearly every instance, has lowered total production costs by allowing fewer raw material purchases, lowering liability insurance costs, and reducing disposal and permitting fees. A recent study by the Environmental Protection Agency (EPA) estimated that wider use of these technologies could reduce the generation of waste by 30 percent.[2]

U.S. industries generate at least 570 million tons of solid and liquid waste annually, according to the most recent EPA estimates. In response to the enormity of the pollution problems, Congress has passed increasingly strict pollution control laws in the last 17 years. With hindsight, however, government and industry are realizing that end-of-the-pipe pollution controls are not enough. Hazardous waste continues to contaminate air, land, and water, despite mounting pollution controls and costs. While rising expenses should encourage industries to look for cheaper waste-management alternatives, little information or guidance is available to show them viable options. Federal assistance in development of pollution-prevention techniques, could help industry meet current pollution-control laws and save money.

Definition of Waste Reduction

While few would disagree on the need to cut the volume of hazardous wastes, the term <u>waste reduction</u> causes confusion. Waste reduction means cutting the generation, emission, or discharge of hazardous waste at the source. Treatment practices that reduce the toxicity of waste after generation or recover chemicals from a waste stream for reuse, while beneficial, are not as cost-effective. Waste reduction prevents the actual generation of these wastes rather than minimizing their impact once created. It requires long-range planning and, in many cases, a creative review of the entire plant--the materials used, the production process, plays the end product--eliminate as many toxics as possible. Waste reduction can be broken down into three categories:

- changing the production process to avoid certain waste-producing stages;
- reformulating the product so that fewer hazardous materials are included and eliminating those that do not affect the quality of the product; and

- o improving management and housekeeping measures so that hazardous materials are not leaked or spilled unnecessarily.

Several companies surveyed by the Institute for Local Self-Reliance offer good examples of these waste-reduction methods.

Process Change. Elkhart Products, Inc. modified its bright-dipping and passivating-line wastewater treatment system to remove cyanide and chrome acid from the process. Their elimination, plus the use of a newly incorporated copper recycling process, brought a total annual savings of $120,000.[3]

Product Reformulation/Material Substitution. 3M's Riker Laboratories substituted a water-based solvent for an organic-based solvent used in coating medicine tablets. As a result, the laboratory stopped producing 24 tons of air pollutants per year at a saving of $15,000 annually.[4]

Improved Housekeeping. Exxon Chemical America's Linden, New Jersey, operation cut the quantity of organic wastes entering the wastewater treatment plant by 75 percent simply by implementing a stewardship program, in which plant employees monitor toxic discharges.[5]

For waste streams that are not reduceable, recycling is the preferred management method because it is both prevention and savings-oriented. Many companies and states that operate waste-reduction programs have had similar successes with recycling.

Industry Progress in Waste Reduction

The companies described have gained numerous benefits from initiating their own waste-reduction programs. However, many smaller companies do not have the resources to identify internal waste-reduction strategies. Aggressive state programs, like North Carolina's Pollution Prevention Pays (3Ps) program and Ventura County, California's SCORE program, have helped hundreds of firms reduce waste and save money. The following are examples of successful North Carolina efforts.

- Daly Herring, a pesticide formulator, eliminated production of 45,000 pounds of toxic waste per year by installing an individual bag house, which traps air pollutants like a giant vacuum cleaner, for each pesticide product and removing its plant wide bag house. The plant saves disposal costs and sells the dust from the bag houses for reuse in product manufacturing. With a capital cost of $11,000, the company recovered its investment in ten months.[6]

- Data General Corporation, a circuit board manufacturer, is now able to sell most of its waste streams because of process modifications. With a capital cost of $50,000, the company reduced its land-disposed wastes by 400 tons annually and saves $80,000 per year.[7]

For two years, Ventura County, California, has operated the SCORE waste-minimization program. SCORE, which is funded by the state, has a staff of experts to give local industries technical assistance and advice on feasible processes. While it promotes both waste treatment and reduction, many companies have made substantial headway in reducing waste reduction. Fifty-five of the largest firms in the county have cut back waste generation by 30 percent.[8] The investment has paid handsome dividends: for every dollar the state has invested in the program, industry has saved over $50.[9]

Waste Regulation Compliance Costs

The costs of meeting regulations, particularly those mandated by the Resource Conservation and Recovery Act (RCRA), should offer an enormous incentive to industries to reduce toxic waste generation. A recent editorial in The Washinton Post estimated that 2 percent of the GNP was spent on meeting pollution regulations. This figure includes consumer costs, such as the increased cost of unleaded gasoline, as well as industrial costs such as waste water pretreatment or smokestack scrubbers. While most pollution-control costs are not prohibitively expensive, these monies could be used to increase industrial output and competitiveness.

The cleanup of factories and dump sites for industrial residues can be extremely expensive. Restoration of one site could bankrupt many companies. The total costs for cleanup of the thousands of contaminated sites could be as high as $100 billion.[10] Many insurance companies will not provide coverage to waste-producing firms because of the difficulty in assessing risks due to the joint, several, and strict liability provisions of the Superfund law. Under these liability terms, waste generators and facilities that treat, store or

dispose of them are fully liable for any damages caused by toxic elements. Liability extends to wastes that were properly manifested or disposed of 10 or 50 years ago. While the liability provisions are a natural outgrowth of product liability law, it can have expensive consequences for even the most well-intentioned managers of hazardous wastes.

For example, Premix, Inc., a small plastic products manufacturer, found itself party to several Superfund cases with which it had no knowledge of any connection. A five-gallon barrel with Premix's name on it was found at one Cleveland site. In the 1960s and early 1970s Premix had resold thousands of its empty barrels. George Kaull, the company's founder, speculates that one of these resold barrels ended up in the Cleveland site. He had never heard of the disposal company and had no records of ever shipping waste to them. As a result Premix, had to pay $25,000 in legal fees and $9,000 for the settlement.

Premix, like many other small companies, can no longer obtain hazardous waste insurance. Although it now incinerates its waste at an additional cost of $95 per drum, the company is still liable for any accidents that occur at the plant or on the way to a treatment facility. In the event of an accident, Kaull predicts that the company will simply have to declare bankruptcy.[11]

Many other companies are faced with similar liability concerns. In an interview with Occupational Hazard, M.L. Mullins, director of regulatory management at Monsanto Corporation, cited this sort of retroactive liability costs as one of the major factors in influencing it to develop an aggressive waste-reduction program.[12]

Barriers to Progress

As the above examples indicate, industry can achieve impressive results from waste-reduction programs. Still, despite rising Superfund liability costs, most companies are not pursuing waste reduction. In concluding its survey of organic chemical industries, INFORM found that "the millions of pounds of waste reduction reported by the study plants is only a minute fraction of the total wastes generated by them."[13] In fact, only 12 of the 29 companies surveyed by INFORM reported any reductions at all.

Lack of awareness or lack of information is the most common reason that more companies do not practice waste reduction. Company managers simply are not aware of techniques that could be applicable to their industries. Business owners are so oriented to meeting the deadlines of current regulations that they do not seek out innovative alternatives.

In its 1986 report to Congress on waste minimization, EPA cited an array of disincentives to waste minimization. Aside from the feasibility aspects, awareness of upper-level management was one of the most influential factors in the introduction of waste-minimization programs. The report stated, "to be successful in bringing about changes in plant operation and/or design, policy-making and implementation processes within companies are largely dependent upon upper management support."[14]

The EPA report also found that "many hazardous waste generators...face obstacles to implementing waste minimizing processes or practices, because they lack awareness of the technical alternatives available, have inadequate capital to make the necessary investments, lack engineering expertise to redesign

processes, or fail to understand the importance of considering compliance or disposal costs."[15]

Moving from Regulation to Reduction

Existing Federal Regulations

EPA regulates hazardous wastes under the authority of nine different statutes. Because these laws developed in response to crises, their control strategies tend to vary. Only the RCRA contains any provisions on waste reduction. Disposal of most wastes generally falls under the regulation of RCRA, plus the Clean Air Act (CAA) and the Clean Water Act (CWA). Both regulate the amount of waste released; any level below the standard is legal. RCRA does not regulate the amount of hazardous waste generated, but does require its treatment, storage and disposal[16] in a manner sanctioned by EPA. Only small generators are excepted. RCRA regulates about 400 hazardous wastes. EPA has set emissions standards for only seven hazardous air pollutants and 85 water pollutants. For a more complete description of RCRA, CWA, and CAA, see Appendix A.

In response to the thousands of Superfund sites and groundwater contamination problems, Congress enacted several important restrictions on land disposal of hazardous waste in the 1984 RCRA amendments. The amendments will gradually phase out the land disposal and deep well injection of most hazardous wastes over the next few years (see Table 1). The liability provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) also discourage such practices. Under the act, industries are liable for damages created by leaking or improperly disposed hazardous waste. Regardless of fault or percentage of contribution to a Superfund site, any company that has contributed to a site at any time is responsible for cleanup costs. Although no limits are set on waste generation, the RCRA restrictions, liability concerns, and increasing costs all act as disincentives for land disposal of hazardous waste.

EPA administers several other laws that regulate hazardous waste, including the Toxic Substances Control Act; the Federal Insecticide, Fungicide, and Rodenticide Act; the Safe Drinking Water Act; and the Marine Protection, Research and Sanctuaries Act.

Need for a Multimedia Approach to Pollution Control

Pollution does not respect media boundaries, moving easily among air, land, and water. Legislators tried to design laws that would protect our environment as best as they could; however, these regulatory laws cannot cover the transfer of certain chemicals from one medium to another. For example, RCRA regulation of land disposal of a substance will not necessarily control their release through smokestacks or in wastewater discharges. In fact, if the chemical is not listed as a pollutant by CAA or CWA, or is not controlled by CWA industrial technology requirements, its discharge is not subject to any federal control limits. As a result regulations could shift hazardous waste materials from one medium to another at great expense without corresponding environmental benefit. Many control methods that appear to protect the environment simply transfer toxics from one media to another.

Table 1

Timetable of Land Disposal Restriction Under the 1984 RCRA Amendments

Deadline	Action
November 8, 1986	Treatment standards for land disposal of dioxin- and solvent-containing hazardous wastes (except for underground injection into deep injection wells).
July 8, 1987	Treatment standards for land disposal of California List wastes (except for underground injection into deep injection wells).
August 8, 1988	Treatment standards for land disposal of at least one-third of all listed hazardous wastes.
August 8, 1988	Treatment standards for underground injection of solvent- and dioxin-containing hazardous wastes, and California List wastes into deep injection wells.
June 8, 1989	Treatment standards for at least two-thirds of all listed hazardous wastes.
May 8, 1990	Treatment standards for all listed hazardous wastes and all wastes identified as hazardous based on a characteristic.

SOURCE: U.S. Environmental Protection Agency, Office of Solid Waste, Report to Congress on Waste Minimization, EPA/530-SW-86-041 (Washington, D.C.: U.S. Government Printing Office, 1986), Issues and Options, Volume I, pp. 5-50.

For example, the petroleum industry has had trouble controlling volatile organic compound (VOC) emissions. To meet CWA requirements, petroleum companies built wastewater treatment facilities to clean the VOC-tainted oily waters produced during refining. Later the treatment processes were found to emit the VOCs into the air. Petroleum companies now must find ways to control these emissions.[17]

Air pollution control devices also shift large quantities of waste among media. A 1,000 megawatt power plant burning high-sulfur coal will generate about 200,000 tons of sludge per year as it removes pollutants. Most of the waste captured by scrubbers becomes solid waste disposed on land; some is converted to wastewater.[18]

Other types of inter-media transfer of toxics have proven contentious; municipal sludge is one example. Sludge from municipal wastewater treatment plants can contain large quantities of pesticides, organic chemicals, and heavy metals removed from industrial and urban discharges. If the sludge is disposed of in a municipal landfill, hazardous chemicals can leach through the soil and contaminate groundwater.

Many progressive companies have begun to reduce land disposal of their hazardous wastes in response to the enormity of the Superfund cleanup problem. However, hazardous pollution is not simply a land-disposal problem. INFORM found that for organic chemicals "despite the common assumption that solid waste generation far exceeds discharges to the air and water, hazardous chemical wastes were found to be generated in roughly equal amounts as air emissions, waste water discharges, and as solid wastes."[19] An important recent EPA study rated hazardous air emissions a much greater threat to the public health than land disposal of hazardous wastes. An earlier EPA report estimated that 153 million tons of waste, including both toxic and nontoxic chemicals, were emitted to the air in 1984.[20] Toxic discharges to water also are substantial, causing numerous reproductive and health problems for marine biota. At a minimum, 601 million pounds of metals and 225 million pounds of organic chemicals regulated under the Clean Water Act are discharged annually to marine waters by permitted industrial and municipal sources.[21]

While developed with the best of intentions, current laws are not achieving the desired results in environmental protection. In fact, the current emphasis on reducing land disposal of RCRA wastes could result in more shifting of waste from one media to another rather than increased waste-reduction practices. A preventive approach is the only sure way to minimize risk to the environment. Federal help in developing waste-reduction programs, not new regulations, is needed to address the multimedia nature of the toxic pollution problem.

Lack of Information on Amount of Waste Generated

Surprisingly little information is available on total quantities of hazardous waste generated nationwide. Even less is available on trends or management techniques. More than ten surveys of waste generation undertaken since 1970 offer a wide range of quantity estimates (see Table 2). Most of the surveys have focused solely on wastes listed as toxic by RCRA. Only the Congressional Budget Office survey included wastes not on the RCRA list, such as waste oils, industrial scrubber residue, and certain industrial liquid waste

Table 2

Estimates of Hazardous Waste Volume, 1973-1986
(in million metric tons)

Year of publication	Year estimated for	Study	Waste volume[a]
1973	1970	EPA[b]	9
1977	1974	EPA[c]	29
1980	1980	EPA[d]	54
1980	1980	Booz-Allen[e]	41
1980	1981	Booz-Allen[e]	43
1983	1981	Preliminary EPA-Westat[f]	150
1983	1981	OTA[g]	255–75
1984	1981	EPA-Westat[f]	264
1985	1983	CBO[h]	266
1986	1984	Chemical Manufacturers Association[i]	247[j]
1986	1980	Gould[k]	91

[a]Most studies reported volume as million metric tons. For studies reporting volume in different units, we converted to metric tons.

[b]U.S. Environmental Protection Agency, Report to Congress: Disposal of Hazardous Wastes (Washington, D.C.: 1974).

[c]EPA as reported in Michael R. Greenberg and Richard F. Anderson, Hazardous Waste Sites: The Credibility Gap (New Brunswick, N.J.: Center for Policy Research, 1984), pp. 5-9.

[d]U.S. Environmental Protection Agency, "Hazardous Waste Management System: Identification and Listing of Hazardous Wastes," 45 Fed. Reg. 33084 (May 19, 1980).

[e]Booz, Allen and Hamilton, Inc., and Putnam, Hayes, and Bartlett, Inc., Hazardous Waste Generation and Commercial Hazardous Waste Management Capacity: An Assessment (Bethesda, Md.: November 1980).

[f]U.S. Environmental Protection Agency, National Survey of Hazardous Waste Generators and Treatment, Storage and Disposal Facilities Regulated Under RCRA in 1981 (Washington, D.C.: April 1984).

[g]Office of Technology Assessment, Technologies and Management Strategies for Hazardous Waste Control (Washington, D.C.: March 1983).

[h]Congressional Budget Office, Hazardous Waste Management: Recent Changes and Policy Alternatives (Washington, D.C.: May 1985).

[i]Chemical Manufacturers Association and Engineering-Science, Inc., Results of the 1984 CMA Hazardous Waste Survey (Austin, Texas: January 1986).

[j]This amount is for a subset of the chemical industry.

[k]Jay M. Gould, Quality of Life in American Neighborhoods: Levels of Affluence, Toxic Waste, and Cancer Mortality in Residential Zip Code Areas (Boulder, Colo.: Westview Press, Inc., 1986).

SOURCE: General Accounting Office, Hazardous Waste: Uncertainties of Existing Data, GAO/PEMD-87-11BR (Washington, D.C., February 1987), p. 23.

streams.[22] Estimated RCRA-regulated wastes generated in 1981 varied widely, from the 43 million tons estimated by Booz, Allen and Hamilton to about 264 million estimated by the Westat survey. In 1986 an EPA report estimated that a minimum of 569 million tons of RCRA-defined hazardous waste are generated each year.[23]

The only information available on national trends in hazardous waste generation is that developed by the Chemical Manufacturers Association (CMA) survey. CMA has conducted surveys of its member companies since 1983 on generation and disposal of hazardous waste. CMA data show a 22-percent reduction in solid and liquid hazardous waste generation for the member companies who participated in the survey every year from 1981 through 1985.[24] While this trend is encouraging, it accounts only for the 30 percent of member companies classified as chemical and allied products producers that voluntarily submitted data for five years in a row.

Using available data and information from other surveys, the Office of Technology Assessment (OTA) and EPA determined that sufficient cost-effective technologies are available to reduce hazardous waste generation substantially. An OTA report suggests that a 50-percent reduction over five years might be feasible, but did not offer any substantive reasons.[25] EPA suggests that a 15- to 30-percent reduction would be economically feasible over the next 25 years. However, OTA criticized the EPA analysis for overestimating the amount of waste reduction achieved in the past and underestimating the amount achievable in the future. It is difficult to determine what is possible without an improved database, although the initial estimates are promising.

Present Federal and State Waste-Reduction Efforts

Reporting Requirements Under RCRA and Superfund

New reporting requirements under the 1984 RCRA amendments and 1986 Superfund amendments will go a long way toward improving the database on waste generation, disposal capacity, and waste-reduction trends. Section 3002 of the RCRA amendments requires industries to describe waste-minimization efforts and compare current generation levels those of previous years. Section 313 of the Superfund Amendments and Reauthoriztion Act of 1986 (SARA), industries must report to EPA all releases, accidental or permitted, for 329 toxic chemicals commonly discharged in gaseous, liquid, and solid states.

While this information will improve understanding of waste generation, there are gaps. The RCRA waste-minimization reporting requirements apply only to solid wastes, leaving out the tracking of wastes that contribute to air or water pollution. In addition, there is no format prescribed for reporting this information on solid waste. The waste-minimization data gathered under this law so far has proven useless. Conversely, SARA does not require assessment of pollution-reduction activities or generation trends for the more complete Superfund list of chemicals. Under SARA, industries must report hazardous-waste generation, but no format exists for them to report attempts to reduce these chemical emissions. While this information will be helpful in improving the database, a good understanding of waste-reduction trends is essential in targeting technical assistance and research efforts. Without more precise knowledge of which industries have reduced waste generation already and which have that potential, it is impossible to make efficient use of federal and state resources to help those companies most in need.

EPA Waste Reduction Policy

The 1984 RCRA amendments state that reduction at the source is the preferred method for managing hazardous waste. The bill states "it to be the national policy of the United States that, wherever feasible, the generation of hazardous waste is to be reduced or eliminated as expeditiously as possible."[26]

In its 1986 report to Congress on waste minimization, EPA confirmed again that waste reduction was the preferred method of waste management. It identified the elements of a proposed waste-reduction policy that included technical assistance and improving the agency's ability to gather and analyze information about waste reduction.

While source reduction may be the preferred management option on paper, EPA has not worked it into its programs developed since 1984. Without clear congressional authority, the agency is not able to make waste reduction a first priority. Agency budget requests for waste reduction have hovered around $500,000 per year. EPA requested about $400,000 for waste minimization in fiscal 1988, less than what it spent in fiscal 1987. That amount comes to about 0.03 percent of EPA's operating budget.[27]

State Programs

Several states have instituted successful, innovative programs to reduce waste production. Some of the approaches include: waste-end taxes, loan and grant programs, technical assistance, information and waste exchanges, and tax bonuses. As of 1986, 12 states had waste-reduction programs.

One of the more comprehensive state programs is North Carolina's Pollution Prevention Pays (3P) program. It was established in 1983 in response to concerns of local environmentalists about the siting of land-disposal facilities for hazardous wastes. Cutting the production of waste streams would eliminate the need for new facilities. The 3P program has an annual budget around $600,000 and employs three full-time staff. The program provides technical assistance, an information clearinghouse, outreach, research and education grants, and challenge grants to small businesses and communities. In its three years of operation, the program has helped hundreds of industries reduce waste generation, mostly through technical assistance.[28] It also has provided over 40 businesses and communities with $5,000 in matching challenge grants to implement waste-reduction programs. Staff cited the success at J.P. Stevens, the largest textile manufacturing firm in the nation, as an example. J.P. Stevens will eliminate the use of hazardous biocides in cleaning its scrubbers by substituting UV radiation. In a study of alternative processes, the company found that UV radiation is safer, cheaper, and does a better job.[29]

Most state waste-reduction programs are responding only to problems of land disposal of RCRA-defined wastes, failing to consider the problems of intermedia pollution transfer. In addition, many programs place more emphasis on treatment rather than on reduction, even though reduction is more cost-effective. Generally, state waste-reduction programs, like EPA's, lack the funding and specific commitment to waste reduction and recycling to achieve their full impact.

New Legislative Option

H.R. 2800 and S. 1429, the Hazardous Waste Reduction Bill

Legislation introduced in June 1987 addresses many of the concerns raised in this discussion. The Hazardous Waste Reduction Act, introduced by Representatives Howard Wolpe (D-MI), Claudine Schneider (R-RI), Dennis Eckart (D-OH) and Sherwood Boehlert (R-NY) as H.R. 2800 and Senator Frank Lautenberg (D-NJ) as S. 1429, would create a comprehensive program for reducing hazardous waste. Briefly, provisions of the bill would:

- authorize $10 million per year for grants to states to help them start or expand their waste-reduction programs;
- establish a national clearinghouse for information on waste-reduction practices and recycling techniques;
- establish an Office of Waste Reduction within the EPA;
- require that office to submit a report to Congress every two years on waste-reduction progress and roadblocks; and
- improve the collection of information about waste-reduction practices required under section 3002 of RCRA and section 313 of the Superfund Amendments Reauthorization Act.

The $10 million in grants to states for comprehensive programs is crucial. The impetus for waste-reduction programs must come from state and local agencies. Because of the complexity and variety of manufacturing processes, each company must develop unique waste-reduction programs. State- and locally-based programs, because of their proximity, will be able to visit the company site and give them the individual help on a case-by-case basis.

The clearinghouse would collect examples of waste-reduction techniques for the benefit of all. It would gather anecdotal information from specific technical-assistance programs funded by state programs. Such a center would make available desperately needed information for state officials supplying technical assistance and industries developing their own waste-reduction programs. EPA would keep the clearinghouse current, prepare summary listings of database contents and provide local computer access at EPA regional offices.

The Office of Waste Reduction would promote waste reduction as its first priority. Regulation of media-specific pollution is EPA's organizing principle at present. For instance, the Office of Solid and Hazardous Waste develops and supervises land-disposal regulations under RCRA. The Office of Air and Radiation oversees air pollution controls. A separate Office of Waste Reduction would take the waste-reduction program outside the confines of the regulatory mandates of any specific EPA office. The bill would authorize $8 million for the office to carry out its responsibilities.

In order to improve our collective information on hazardous waste-reduction practices, industries would have to report the rate at which they reduced the emission, disposal, release, or discharge of a specific list of chemical wastes in a standardized form. All trade-sensitive information would be excluded from the reporting requirements. They would supply the information in a standardized, generic form for easy interpretation. Through a simple check-off system attached to existing section 313 of the Superfund reporting form, H.R. 2800 and S. 1429 would require companies to report the fraction by which each chemical waste had been reduced in the previous year, if any; the fraction by which the company planned to reduce the chemical waste in the succeeding year; and a generic description of the method of reduction chosen. Wastes managed through recycling would be reported separately. The bill also would require companies to report the fraction by which their output rose or fell compared to a base year. This would allow EPA to analyze whether reduction was a result of declines in overall production or because of actual waste-reduction efforts. These data would be stored in the national database.

Under the provisions of the bill, EPA would use the database and clearinghouse to prepare a report to Congress. The report would include: profiles of waste reduction on an industry specific basis; identification of regulations inhibiting waste reduction; identification of unrealized opportunities for waste reduction; and recommendations as to incentives needed to encourage investment and research in waste reduction. The database and clearinghouse would give EPA the detailed information needed to conduct an accurate analysis of waste-generation trends and progress towards source reduction.

Endorsements

Support for the bill has come from an array of environmental organizations, industries, members of Congress, and states. Representatives of many of these groups helped draft the language of the bill. The House bill was introduced with 74 cosponsors; it had 144 cosponsors by August 1987. The 30-member National Roundtable of State Waste Reduction Programs endorsed the bill, saying that it would provide the national leadership required to make waste reduction "become a reality across the nation." In addition, the governors of Michigan, New Jersey, North Carolina, and Ohio issued statements in support of the legislation.

Elizabeth Raisbeck, vice president for Government Affairs of the National Audubon Society said, "Eliminating waste at the source is the surest way to reduce the environmental threat from . . . pollution. The Hazardous Waste Reduction Act would take an important step forward by establishing a national database to measure how much industries are reducing waste on a multimedia basis. The bill would also appropriately provide technical assistance to businesses."

Joanna Underwood, executive director of INFORM, called the bill "a landmark piece of legislation--a major federal initiative aimed at stimulating waste-reduction activities at the thousands of plants generating hazardous wastes across the country."

Conclusion

The United States generates an enormous quantity of hazardous waste, more than 570 million tons each year. This amount probably will increase as industry expands and production grows in the years to come. While many attempts have been made over the years to ensure that these pollutants do not contaminate our environment, it is more and more difficult to dispose of these chemicals safely. Clearly, waste reduction is the only way to lower the threat of contamination and solve the problem of toxic contamination. A strong national waste-reduction program is essential to eliminate this increasingly burdensome threat to our environment and health.

Appendix A

The Resource Conservation and Recovery Act contains two provisions that deal with waste reduction: section 3002 (a)(6) and section 3002 (b). Section 3002 (a)(6) states that, generators of hazardous waste must submit a report every other year describing their waste-minimization efforts and trends in their waste generation. Section 3002 (b) provides that one of the requirements for a facility to obtain a treatment storage and disposal (TSD) permit, is to certify that a waste-reduction program is in place which "reduces the volume and toxicity of hazardous waste that it generates to the degree determined by the permittee to be economically practicable."[30]

Generally, RCRA requires hazardous-waste generators and treatment, storage, and disposal (TSD) facilities to abide by a strict set of waste-management rules. While waste reduction is encouraged by section 3002, no limits are set on how much waste may be generated or disposed of. Only recently have restrictions been enacted on disposal methods. As a result of the discovery of thousands of potential Superfund sites nationwide, Congress enacted some important limits on land disposal and underground injection of several waste streams in the 1984 RCRA reauthorization act (see Table 1). The amendments banned dioxin and solvent-containing wastes from surface land disposal as of November 1986. EPA delayed implementation of the ban for two years, claiming insufficient alternative treatment capacity was available. However, the amendments will not allow any more delays after November 1988. Similar restrictions will begin to go into effect for deep well injection in 1988. Over the next few years, EPA will have to review all other waste streams that enter land-disposal units to determine if alternative treatment and disposal methods are feasible. By 1990 EPA must have developed treatment standards for all listed hazardous wastes.

The Clean Air Act requires EPA to set air-quality standards based on human health risk assessments. Local air-quality officials must establish, with EPA approval, emissions limits for industries in each area to attain the EPA-established background concentrations. Since 1970, when the law was passed, EPA has set standards for 13 pollutants; only seven of these are toxic chemicals. However, some states have added to the list.

The Clean Water Act requires industries to employ the best available control technology, as defined by EPA, for removing toxic and conventional pollutants from discharges. Technology standards have been established for most industrial categories in the last ten years. However, there are a few notable exceptions--namely the organic chemical industry, which generates the majority of RCRA-defined wastes, and the pesticide manufacturing industry. Regulations are not expected to be in place for at least another three years (see Table 3).

A second, more stringent, level of water-quality control also is available to state regulatory programs, although it is not widely used. CWA requires EPA to set ambient standards which ultimately would guide technology standards. States are supposed to determine if stricter effluent limits than those established by the technology-based standards are needed to meet the water quality criteria. EPA has issued 85 human health water quality criteria. Sixty-nine of these have not been adopted by any states.[31]

Table 3

Final and Proposed Regulations for Industrial Categories Under the Clean Water Act

	Date of promulgation	Effective date[a]	Date of PSES compliance
Timber processing	1-26-81	3-30-81	1-26-84
Electroplating:[b] Integrated	1-28-81	3-30-81	4-27-84
Nonintegrated	1-28-81	3-30-81	6-30-84
Iron and steel	5-27-82	7-10-82	7-10-85
Inorganic chemicals I	6-29-82	8-12-82	8-12-85
Textile mills	9-02-82	10-18-82	N/A[c]
Coal mining	10-13-82	11-26-82	N/A[d]
Petroleum refining	10-18-82	12-01-82	12-01-85
Steam electric	11-19-82	1-02-83	7-01-84
Pulp and paper	11-18-82	1-03-83	7-01-84
Leather tanning	11-23-82	1-06-83	11-25-85
Porcelain enameling	11-24-82	1-07-83	11-25-85
Coil coating I	12-01-82	1-17-83	12-01-85
Ore mining	12-03-82	1-17-83	N/A[d]
Electrical and electronic components I	4-08-83	5-19-83	7-01-84
(arsenic subcategory)	4-08-83	5-19-83	11-08-85
Metal finishing[b]	7-15-83	8-29-83	2-15-86
Copper forming	8-15-83	9-26-83	8-15-86
Aluminum forming	10-24-83	12-07-83	10-24-86
Pharmaceuticals	10-27-83	12-12-83	10-27-86
Coil coating II	11-17-83	1-02-84	11-17-86
Electrical and electronic components II	12-14-83	1-27-84	7-14-87
Battery manufacturing	3-09-84	4-18-84	3-09-87
Nonferrous metals I	3-08-84	4-23-84	3-09-87
Inorganic chemicals II	8-22-84	10-05-84	8-22-87
Plastics molding and forming	12-17-84	1-30-85	N/A[c]
(phthalates subcategory: action due)	6-??-87[e]	?	N/A
Nonferrous metals forming	8-23-85	10-07-85	8-23-88
Nonferrous metals II	9-20-85	11-04-85	9-20-88
Foundries	10-30-85	12-13-85	10-31-88
Organic Chemicals and Plastics and Synthetic Fibers ...proposed	3-21-83[f]	?	?
Pesticides .....issued	10-04-85	?	?
withdrawn	12-15-86[g]		

[a]BAT standards take effect as specified by the compliance schedule written into individual NPDES permits issued after the effective date of the regulation.

[b]Existing job shop electroplaters and independent circuit board manufacturers must comply only with the electroplating regulations. All other electroplating subcategories are also covered by metal finishing regulations.

[c]No pretreatment standards were promulgated for these categories because they were exempted under Paragraph 8 of the NRDC consent decree.

[d]No pretreatment standards were promulgated for these categories because they contain no indirect dischargers.

[e]This subcategory is under study to establish treatability data for possible future regulation. Final action is expected in June 1987 (51 *Federal Register* 4526, Apr. 21, 1986). EPA expects to exempt this subcategory from pretreatment standards under Paragraph 8 of the NRDC consent decree (as was previously done for the rest of the industry).

[f]It is unclear when final regulations will be issued for this category (51 *Federal Register* 44082, Dec. 8, 1986).

[g]Final regulations (BAT, PSES) for the pesticides industry were issued in 1985, but subsequently withdrawn by EPA (51 *Federal Register* 44911, Dec. 15, 1986). No date for reissuance of the regulation was provided.

SOURCE: Office of Technology Assessment, 1987; based on *Federal Register* notices cited in the appropriate sections of 40 Code of Federal Regulations, Sections 401 to 460, except as noted above.

SOURCE: U.S. Congress. Office of Technology Assessment, Wastes in Marine Environments, OTA-O-334 (Washington, D.C., April 1987), p. 190.

Notes

1. "Cleanup Costs and Benefits," The Washington Post, July 20, 1987. p. 22.

2. U.S. Environmental Protection Agency, Office of Solid Waste, Report to Congress, Waste Minimization, EPA/530-SW-86-041, (Washington, D.C.: U.S. Government Printing Office, 1986), p. 2.

3. Donald Huisingh, Larry Martin, Helene Hilger, and Neil Seldman, Profits From Pollution Prevention, (Washington, D.C.: Institute for Local Self-Reliance, 1986), p. 130.

4. Ibid., p. 165.

5. Ibid., p. 67.

6. Interview with Gary E. Hunt, Project Officer, North Carolina Pollution Prevention Pays Program, Raleigh, N.C., July 17, 1987.

7. Ibid.

8. Interview with Deborah Hanlon, former director, Ventura County Environmental Health Department, California, July 23, 1987.

9. Interview with Joel Hirschorn, Office of Technology Assessment, Washington, D.C., July 23, 1987.

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11. Interview with George Kaull, Chairman, Premix, Inc., Ashtabula, Ohio, August 11, 1987.

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13. David J. Sarokin, Warren R. Muir, Catherine G. Miller, and Sebastian R. Sperber, Cutting Chemical Wastes (New York, NY: INFORM, Inc., 1985), p. 31.

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23. Center for Economics Research, 1986 National Screening Survey of Hazardous Waste Treatment, Storage, Disposal and Recycling Facilities: Summary of Results for TSDR Facilities Active in 1985 (Washington, D.C.: Environmental Protection Agency, 1986), Table 13.

24. Chemical Manufacturers Association, 1985 CMA Hazardous Waste Survey (Washington, D.C., April 1987), p. 52.

25. Office of Technology Assessment, From Pollution to Prevention, p. 18.

26. 42 United States Code, section 3002(b).

27. Office of Technology Assessment, From Pollution to Prevention, p. 37.

28. Interview with Gary Hunt.

29. Ibid.

30. 42 United States Code, section 3002(b)(1).

31. U.S. Congress, House Subcommittee on Fisheries and Wildlife Conservation and the Environment of the Committee on Merchant Marine and Fisheries, "Briefing Paper for the Oversight Hearing on Coastal Pollution," (100th Congress, 1st session), May 1987, p. 8.

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